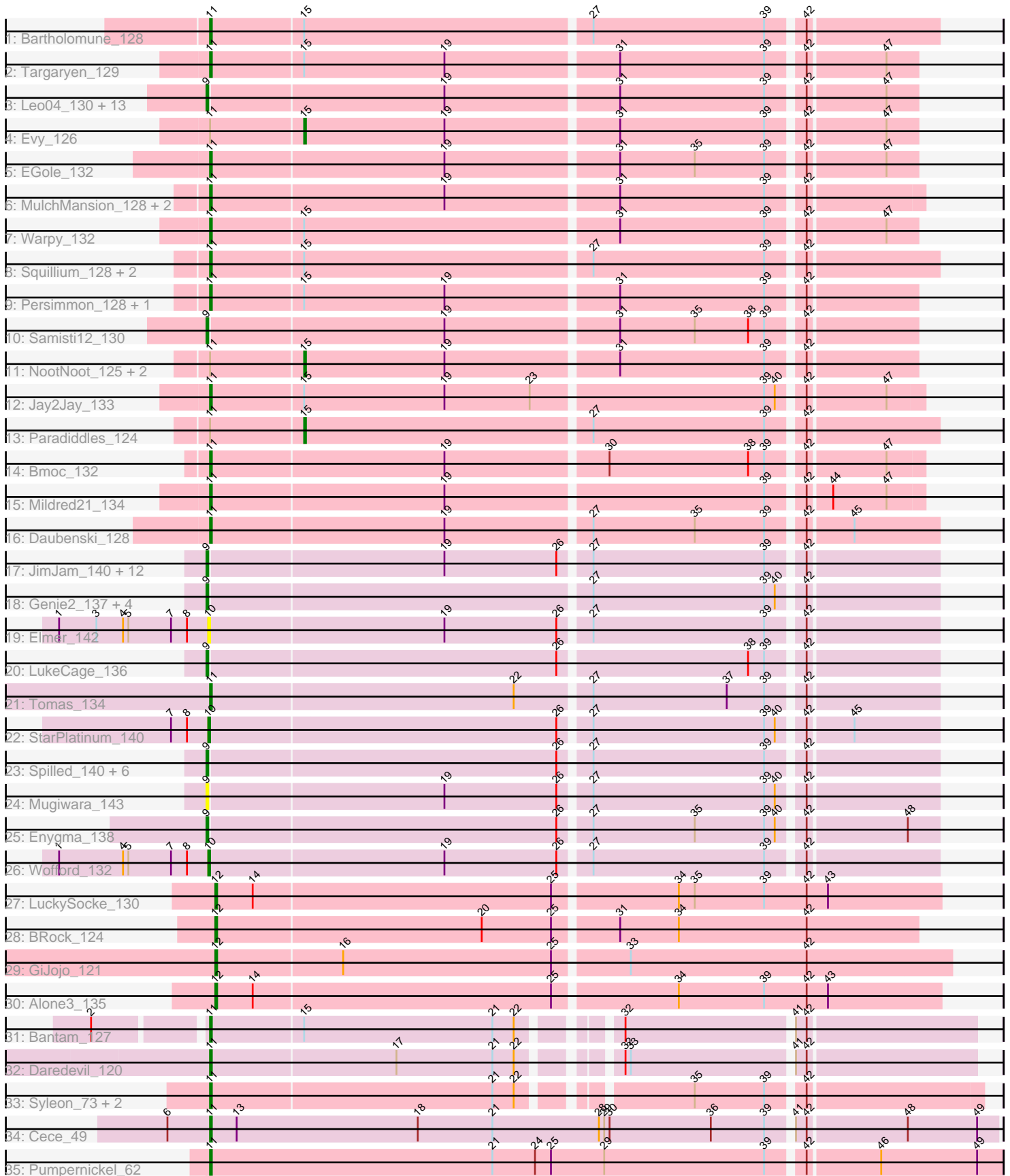


Pham 1610



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 1610 Report

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

Pham number 1610 has 79 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Bartholomune_128
- Track 2 : Targaryen_129
- Track 3 : Leo04_130, Cross_129, Peebs_127, Tribute_128, Sushi23_128, BlueOtter_131, Larnav_136, Lululemon_130, PacManQ_130, Deutsch_128, HangryHippo_131, Watermoore_128, Cursive_127, Pepperwood_128
- Track 4 : Evy_126
- Track 5 : EGole_132
- Track 6 : MulchMansion_128, LilMartin_128, Angela_129
- Track 7 : Warpy_132
- Track 8 : Squillium_128, PinkiePie_125, Liandry_128
- Track 9 : Persimmon_128, Braelyn_129
- Track 10 : Samisti12_130
- Track 11 : NootNoot_125, Navo_130, WhereRU_130
- Track 12 : Jay2Jay_133
- Track 13 : Paradiddles_124
- Track 14 : Bmoc_132
- Track 15 : Mildred21_134
- Track 16 : Daubenski_128
- Track 17 : JimJam_140, Karimac_136, IchabodCrane_132, Wipeout_131, Amabiko_138, SaltySpittoon_137, Gibbi_143, Bordeaux_136, Spelly_139, Starbow_135, Battuta_136, MindFlayer_133, KentuckyRacer_143
- Track 18 : Genie2_137, BoomerJR_137, Yaboi_136, Sollertia_136, Stanimal_135
- Track 19 : Elmer_142
- Track 20 : LukeCage_136
- Track 21 : Tomas_134
- Track 22 : StarPlatinum_140
- Track 23 : Spilled_140, TomSawyer_138, PumpkinSpice_139, CeilingFan_143, Quaran19_137, Jollison_142, Birchlyn_136
- Track 24 : Mugiwara_143
- Track 25 : Enygma_138
- Track 26 : Wofford_132
- Track 27 : LuckySocks_130
- Track 28 : BRock_124
- Track 29 : GiJojo_121
- Track 30 : Alone3_135
- Track 31 : Bantam_127
- Track 32 : Daredevil_120

- Track 33 : Syleon_73, Kudrefre_72, Sephiroth_71
- Track 34 : Cece_49
- Track 35 : Pumpernickel_62

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 33 of the 66 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amabiko_138, Battuta_136, Birchlyn_136, BlueOtter_131, BoomerJR_137, Bordeaux_136, CeilingFan_143, Cross_129, Cursive_127, Enygma_138, Genie2_137, Gibbi_143, HangryHippo_131, IchabodCrane_132, JimJam_140, Jollison_142, Karimac_136, KentuckyRacer_143, Larnav_136, Leo04_130, LukeCage_136, Lululemon_130, MindFlayer_133, Mugiware_143, PacManQ_130, Peebs_127, Pepperwood_128, PumpkinSpice_139, Quarant19_137, SaltySpitoon_137, Samisti12_130, Sollertia_136, Spelly_139, Spilled_140, Stanimal_135, Starbow_135, Sushi23_128, Teutsch_128, TomSawyer_138, Tribute_128, Watermoore_128, Wipeout_131, Yaboi_136,

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

•

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

- Alone3_135, Angela_129, BRock_124, Bantam_127, Bartholomune_128, Bmoc_132, Braelyn_129, Cece_49, Daredevil_120, Daubenski_128, EGole_132, Elmer_142, Evy_126, GiJojo_121, Jay2Jay_133, Kudrefre_72, Liandry_128, LilMartin_128, LuckySocke_130, Mildred21_134, MulchMansion_128, Navo_130, NootNoot_125, Paradiddles_124, Persimmon_128, PinkiePie_125, Pumpernickel_62, Sephiroth_71, Squillium_128, StarPlatinum_140, Syleon_73, Targaryen_129, Tomas_134, Warpy_132, WhereRU_130, Wofford_132,

Summary by start number:

Start 9:

- Found in 43 of 79 (54.4%) of genes in pham
- Manual Annotations of this start: 33 of 66
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amabiko_138 (BE2), Battuta_136 (BE2), Birchlyn_136 (BE2), BlueOtter_131 (BE1), BoomerJR_137 (BE2), Bordeaux_136 (BE2), CeilingFan_143 (BE2), Cross_129 (BE1), Cursive_127 (BE1), Enygma_138 (BE2), Genie2_137 (BE2), Gibbi_143 (BE2), HangryHippo_131 (BE1), IchabodCrane_132 (BE2), JimJam_140 (BE2), Jollison_142 (BE2), Karimac_136 (BE2), KentuckyRacer_143 (BE2), Larnav_136 (BE1), Leo04_130 (BE1), LukeCage_136 (BE2), Lululemon_130 (BE1), MindFlayer_133 (BE2), Mugiware_143 (BE2), PacManQ_130 (BE1), Peebs_127 (BE1), Pepperwood_128 (BE1), PumpkinSpice_139 (BE2), Quarant19_137 (BE2), SaltySpitoon_137 (BE2), Samisti12_130 (BE1), Sollertia_136 (BE2), Spelly_139 (BE2), Spilled_140 (BE2), Stanimal_135 (BE2), Starbow_135 (BE2), Sushi23_128 (BE1), Teutsch_128 (BE1), TomSawyer_138 (BE2), Tribute_128 (BE1), Watermoore_128 (BE1), Wipeout_131

(BE2), Yaboi_136 (BE2),

Start 10:

- Found in 3 of 79 (3.8%) of genes in pham
- Manual Annotations of this start: 2 of 66
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Elmer_142 (BE2), StarPlatinum_140 (BE2), Wofford_132 (BE2),

Start 11:

- Found in 29 of 79 (36.7%) of genes in pham
- Manual Annotations of this start: 24 of 66
- Called 82.8% of time when present
- Phage (with cluster) where this start called: Angela_129 (BE1), Bantam_127 (DL), Bartholomune_128 (BE1), Bmoc_132 (BE1), Braelyn_129 (BE1), Cece_49 (GD3), Daredevil_120 (DL), Daubenski_128 (BE1), EGole_132 (BE1), Jay2Jay_133 (BE1), Kudrefre_72 (DU1), Liandry_128 (BE1), LilMartin_128 (BE1), Mildred21_134 (BE1), MulchMansion_128 (BE1), Persimmon_128 (BE1), PinkiePie_125 (BE1), Pumpernickel_62 (GD4), Sephiroth_71 (DU1), Squillium_128 (BE1), Syleon_73 (DU1), Targaryen_129 (BE1), Tomas_134 (BE2), Warpy_132 (BE1),

Start 12:

- Found in 4 of 79 (5.1%) of genes in pham
- Manual Annotations of this start: 4 of 66
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alone3_135 (BS), BRock_124 (BS), GiJojo_121 (BS), LuckySocke_130 (BS),

Start 15:

- Found in 15 of 79 (19.0%) of genes in pham
- Manual Annotations of this start: 3 of 66
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Evy_126 (BE1), Navo_130 (BE1), NootNoot_125 (BE1), Paradiddles_124 (BE1), WhereRU_130 (BE1),

Summary by clusters:

There are 7 clusters represented in this pham: DL, GD3, GD4, BS, BE2, DU1, BE1,

Info for manual annotations of cluster BE1:

- Start number 9 was manually annotated 10 times for cluster BE1.
- Start number 11 was manually annotated 16 times for cluster BE1.
- Start number 15 was manually annotated 3 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 9 was manually annotated 23 times for cluster BE2.
- Start number 10 was manually annotated 2 times for cluster BE2.
- Start number 11 was manually annotated 1 time for cluster BE2.

Info for manual annotations of cluster BS:

- Start number 12 was manually annotated 4 times for cluster BS.

Info for manual annotations of cluster DL:

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

Info for manual annotations of cluster DU1:

- Start number 11 was manually annotated 3 times for cluster DU1.

Info for manual annotations of cluster GD3:

- Start number 11 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:

- Start number 11 was manually annotated 1 time for cluster GD4.

Gene Information:

Gene: Alone3_135 Start: 72503, Stop: 72901, Start Num: 12

Candidate Starts for Alone3_135:

(Start: 12 @72503 has 4 MA's), (14, 72524), (25, 72689), (34, 72755), (39, 72803), (42, 72827), (43, 72839),

Gene: Amabiko_138 Start: 83794, Stop: 84186, Start Num: 9

Candidate Starts for Amabiko_138:

(Start: 9 @83794 has 33 MA's), (19, 83923), (26, 83986), (27, 84001), (39, 84097), (42, 84115),

Gene: Angela_129 Start: 82555, Stop: 82938, Start Num: 11

Candidate Starts for Angela_129:

(Start: 11 @82555 has 24 MA's), (19, 82684), (31, 82777), (39, 82858), (42, 82876),

Gene: BRock_124 Start: 67048, Stop: 67434, Start Num: 12

Candidate Starts for BRock_124:

(Start: 12 @67048 has 4 MA's), (20, 67195), (25, 67234), (31, 67267), (34, 67300), (42, 67372),

Gene: Bantam_127 Start: 76064, Stop: 76462, Start Num: 11

Candidate Starts for Bantam_127:

(2, 76007), (Start: 11 @76064 has 24 MA's), (Start: 15 @76115 has 3 MA's), (21, 76220), (22, 76232), (32, 76274), (41, 76364), (42, 76370),

Gene: Bartholomune_128 Start: 82340, Stop: 82732, Start Num: 11

Candidate Starts for Bartholomune_128:

(Start: 11 @82340 has 24 MA's), (Start: 15 @82391 has 3 MA's), (27, 82547), (39, 82643), (42, 82661),

Gene: Battuta_136 Start: 83767, Stop: 84159, Start Num: 9

Candidate Starts for Battuta_136:

(Start: 9 @83767 has 33 MA's), (19, 83896), (26, 83959), (27, 83974), (39, 84070), (42, 84088),

Gene: Birchlyn_136 Start: 81654, Stop: 82046, Start Num: 9

Candidate Starts for Birchlyn_136:

(Start: 9 @81654 has 33 MA's), (26, 81846), (27, 81861), (39, 81957), (42, 81975),

Gene: BlueOtter_131 Start: 84591, Stop: 84971, Start Num: 9

Candidate Starts for BlueOtter_131:

(Start: 9 @84591 has 33 MA's), (19, 84720), (31, 84813), (39, 84894), (42, 84912), (47, 84954),

Gene: Bmoc_132 Start: 82850, Stop: 83233, Start Num: 11

Candidate Starts for Bmoc_132:

(Start: 11 @82850 has 24 MA's), (19, 82979), (30, 83066), (38, 83144), (39, 83153), (42, 83171), (47, 83213),

Gene: BoomerJR_137 Start: 84097, Stop: 84489, Start Num: 9

Candidate Starts for BoomerJR_137:

(Start: 9 @84097 has 33 MA's), (27, 84304), (39, 84400), (40, 84406), (42, 84418),

Gene: Bordeaux_136 Start: 83922, Stop: 84314, Start Num: 9

Candidate Starts for Bordeaux_136:

(Start: 9 @83922 has 33 MA's), (19, 84051), (26, 84114), (27, 84129), (39, 84225), (42, 84243),

Gene: Braelyn_129 Start: 83226, Stop: 83606, Start Num: 11

Candidate Starts for Braelyn_129:

(Start: 11 @83226 has 24 MA's), (Start: 15 @83277 has 3 MA's), (19, 83355), (31, 83448), (39, 83529), (42, 83547),

Gene: Cece_49 Start: 19543, Stop: 19109, Start Num: 11

Candidate Starts for Cece_49:

(6, 19567), (Start: 11 @19543 has 24 MA's), (13, 19528), (18, 19426), (21, 19384), (28, 19324), (29, 19321), (30, 19318), (36, 19261), (39, 19231), (41, 19219), (42, 19213), (48, 19159), (49, 19120),

Gene: CeilingFan_143 Start: 83685, Stop: 84077, Start Num: 9

Candidate Starts for CeilingFan_143:

(Start: 9 @83685 has 33 MA's), (26, 83877), (27, 83892), (39, 83988), (42, 84006),

Gene: Cross_129 Start: 84592, Stop: 84972, Start Num: 9

Candidate Starts for Cross_129:

(Start: 9 @84592 has 33 MA's), (19, 84721), (31, 84814), (39, 84895), (42, 84913), (47, 84955),

Gene: Cursive_127 Start: 82801, Stop: 83181, Start Num: 9

Candidate Starts for Cursive_127:

(Start: 9 @82801 has 33 MA's), (19, 82930), (31, 83023), (39, 83104), (42, 83122), (47, 83164),

Gene: Daredevil_120 Start: 72702, Stop: 73100, Start Num: 11

Candidate Starts for Daredevil_120:

(Start: 11 @72702 has 24 MA's), (17, 72804), (21, 72858), (22, 72870), (32, 72912), (33, 72915), (41, 73002), (42, 73008),

Gene: Daubenski_128 Start: 84018, Stop: 84410, Start Num: 11

Candidate Starts for Daubenski_128:

(Start: 11 @84018 has 24 MA's), (19, 84147), (27, 84225), (35, 84282), (39, 84321), (42, 84339), (45, 84363),

Gene: EGole_132 Start: 85619, Stop: 85999, Start Num: 11

Candidate Starts for EGole_132:

(Start: 11 @85619 has 24 MA's), (19, 85748), (31, 85841), (35, 85883), (39, 85922), (42, 85940), (47, 85982),

Gene: Elmer_142 Start: 85123, Stop: 85515, Start Num: 10

Candidate Starts for Elmer_142:

(1, 85039), (3, 85060), (4, 85075), (5, 85078), (7, 85102), (8, 85111), (Start: 10 @85123 has 2 MA's), (19, 85252), (26, 85315), (27, 85330), (39, 85426), (42, 85444),

Gene: Enygma_138 Start: 85606, Stop: 85998, Start Num: 9

Candidate Starts for Enygma_138:

(Start: 9 @85606 has 33 MA's), (26, 85798), (27, 85813), (35, 85870), (39, 85909), (40, 85915), (42, 85927), (48, 85981),

Gene: Evy_126 Start: 84396, Stop: 84725, Start Num: 15

Candidate Starts for Evy_126:

(Start: 11 @84345 has 24 MA's), (Start: 15 @84396 has 3 MA's), (19, 84474), (31, 84567), (39, 84648), (42, 84666), (47, 84708),

Gene: Genie2_137 Start: 84211, Stop: 84603, Start Num: 9

Candidate Starts for Genie2_137:

(Start: 9 @84211 has 33 MA's), (27, 84418), (39, 84514), (40, 84520), (42, 84532),

Gene: GiJojo_121 Start: 71534, Stop: 71938, Start Num: 12

Candidate Starts for GiJojo_121:

(Start: 12 @71534 has 4 MA's), (16, 71603), (25, 71720), (33, 71759), (42, 71858),

Gene: Gibbi_143 Start: 83906, Stop: 84298, Start Num: 9

Candidate Starts for Gibbi_143:

(Start: 9 @83906 has 33 MA's), (19, 84035), (26, 84098), (27, 84113), (39, 84209), (42, 84227),

Gene: HangryHippo_131 Start: 84591, Stop: 84971, Start Num: 9

Candidate Starts for HangryHippo_131:

(Start: 9 @84591 has 33 MA's), (19, 84720), (31, 84813), (39, 84894), (42, 84912), (47, 84954),

Gene: IchabodCrane_132 Start: 83495, Stop: 83887, Start Num: 9

Candidate Starts for IchabodCrane_132:

(Start: 9 @83495 has 33 MA's), (19, 83624), (26, 83687), (27, 83702), (39, 83798), (42, 83816),

Gene: Jay2Jay_133 Start: 85183, Stop: 85566, Start Num: 11

Candidate Starts for Jay2Jay_133:

(Start: 11 @85183 has 24 MA's), (Start: 15 @85234 has 3 MA's), (19, 85312), (23, 85360), (39, 85486), (40, 85492), (42, 85504), (47, 85546),

Gene: JimJam_140 Start: 84316, Stop: 84708, Start Num: 9

Candidate Starts for JimJam_140:

(Start: 9 @84316 has 33 MA's), (19, 84445), (26, 84508), (27, 84523), (39, 84619), (42, 84637),

Gene: Jollison_142 Start: 83750, Stop: 84142, Start Num: 9

Candidate Starts for Jollison_142:

(Start: 9 @83750 has 33 MA's), (26, 83942), (27, 83957), (39, 84053), (42, 84071),

Gene: Karimac_136 Start: 84033, Stop: 84425, Start Num: 9

Candidate Starts for Karimac_136:

(Start: 9 @84033 has 33 MA's), (19, 84162), (26, 84225), (27, 84240), (39, 84336), (42, 84354),

Gene: KentuckyRacer_143 Start: 84181, Stop: 84573, Start Num: 9

Candidate Starts for KentuckyRacer_143:

(Start: 9 @84181 has 33 MA's), (19, 84310), (26, 84373), (27, 84388), (39, 84484), (42, 84502),

Gene: Kudefre_72 Start: 44902, Stop: 45303, Start Num: 11

Candidate Starts for Kudefre_72:

(Start: 11 @44902 has 24 MA's), (21, 45058), (22, 45070), (35, 45151), (39, 45190), (42, 45208),

Gene: Larnav_136 Start: 84575, Stop: 84955, Start Num: 9

Candidate Starts for Larnav_136:

(Start: 9 @84575 has 33 MA's), (19, 84704), (31, 84797), (39, 84878), (42, 84896), (47, 84938),

Gene: Leo04_130 Start: 85091, Stop: 85471, Start Num: 9

Candidate Starts for Leo04_130:

(Start: 9 @85091 has 33 MA's), (19, 85220), (31, 85313), (39, 85394), (42, 85412), (47, 85454),

Gene: Liandry_128 Start: 83083, Stop: 83475, Start Num: 11

Candidate Starts for Liandry_128:

(Start: 11 @83083 has 24 MA's), (Start: 15 @83134 has 3 MA's), (27, 83290), (39, 83386), (42, 83404),

Gene: LilMartin_128 Start: 82457, Stop: 82840, Start Num: 11

Candidate Starts for LilMartin_128:

(Start: 11 @82457 has 24 MA's), (19, 82586), (31, 82679), (39, 82760), (42, 82778),

Gene: LuckySocke_130 Start: 70416, Stop: 70814, Start Num: 12

Candidate Starts for LuckySocke_130:

(Start: 12 @70416 has 4 MA's), (14, 70437), (25, 70602), (34, 70668), (35, 70677), (39, 70716), (42, 70740), (43, 70752),

Gene: LukeCage_136 Start: 84810, Stop: 85202, Start Num: 9

Candidate Starts for LukeCage_136:

(Start: 9 @84810 has 33 MA's), (26, 85002), (38, 85104), (39, 85113), (42, 85131),

Gene: Lululemon_130 Start: 83972, Stop: 84352, Start Num: 9

Candidate Starts for Lululemon_130:

(Start: 9 @83972 has 33 MA's), (19, 84101), (31, 84194), (39, 84275), (42, 84293), (47, 84335),

Gene: Mildred21_134 Start: 83027, Stop: 83410, Start Num: 11

Candidate Starts for Mildred21_134:

(Start: 11 @83027 has 24 MA's), (19, 83156), (39, 83330), (42, 83348), (44, 83360), (47, 83390),

Gene: MindFlayer_133 Start: 83402, Stop: 83794, Start Num: 9

Candidate Starts for MindFlayer_133:

(Start: 9 @83402 has 33 MA's), (19, 83531), (26, 83594), (27, 83609), (39, 83705), (42, 83723),

Gene: Mugiwara_143 Start: 84643, Stop: 85035, Start Num: 9

Candidate Starts for Mugiwara_143:

(Start: 9 @84643 has 33 MA's), (19, 84772), (26, 84835), (27, 84850), (39, 84946), (40, 84952), (42, 84964),

Gene: MulchMansion_128 Start: 82503, Stop: 82886, Start Num: 11

Candidate Starts for MulchMansion_128:

(Start: 11 @82503 has 24 MA's), (19, 82632), (31, 82725), (39, 82806), (42, 82824),

Gene: Navo_130 Start: 82939, Stop: 83268, Start Num: 15

Candidate Starts for Navo_130:

(Start: 11 @82888 has 24 MA's), (Start: 15 @82939 has 3 MA's), (19, 83017), (31, 83110), (39, 83191), (42, 83209),

Gene: NootNoot_125 Start: 82048, Stop: 82377, Start Num: 15

Candidate Starts for NootNoot_125:

(Start: 11 @81997 has 24 MA's), (Start: 15 @82048 has 3 MA's), (19, 82126), (31, 82219), (39, 82300), (42, 82318),

Gene: PacManQ_130 Start: 83972, Stop: 84352, Start Num: 9

Candidate Starts for PacManQ_130:

(Start: 9 @83972 has 33 MA's), (19, 84101), (31, 84194), (39, 84275), (42, 84293), (47, 84335),

Gene: Paradiddles_124 Start: 84331, Stop: 84672, Start Num: 15

Candidate Starts for Paradiddles_124:

(Start: 11 @84280 has 24 MA's), (Start: 15 @84331 has 3 MA's), (27, 84487), (39, 84583), (42, 84601),

Gene: Peebs_127 Start: 84388, Stop: 84768, Start Num: 9

Candidate Starts for Peebs_127:

(Start: 9 @84388 has 33 MA's), (19, 84517), (31, 84610), (39, 84691), (42, 84709), (47, 84751),

Gene: Pepperwood_128 Start: 84518, Stop: 84898, Start Num: 9

Candidate Starts for Pepperwood_128:

(Start: 9 @84518 has 33 MA's), (19, 84647), (31, 84740), (39, 84821), (42, 84839), (47, 84881),

Gene: Persimmon_128 Start: 81931, Stop: 82311, Start Num: 11

Candidate Starts for Persimmon_128:

(Start: 11 @81931 has 24 MA's), (Start: 15 @81982 has 3 MA's), (19, 82060), (31, 82153), (39, 82234), (42, 82252),

Gene: PinkiePie_125 Start: 83083, Stop: 83475, Start Num: 11

Candidate Starts for PinkiePie_125:

(Start: 11 @83083 has 24 MA's), (Start: 15 @83134 has 3 MA's), (27, 83290), (39, 83386), (42, 83404),

Gene: Pumpernickel_62 Start: 23826, Stop: 23389, Start Num: 11

Candidate Starts for Pumpernickel_62:

(Start: 11 @23826 has 24 MA's), (21, 23667), (24, 23643), (25, 23634), (29, 23604), (39, 23514), (42, 23496), (46, 23457), (49, 23403),

Gene: PumpkinSpice_139 Start: 84358, Stop: 84750, Start Num: 9

Candidate Starts for PumpkinSpice_139:

(Start: 9 @84358 has 33 MA's), (26, 84550), (27, 84565), (39, 84661), (42, 84679),

Gene: Quaran19_137 Start: 83784, Stop: 84176, Start Num: 9

Candidate Starts for Quaran19_137:

(Start: 9 @83784 has 33 MA's), (26, 83976), (27, 83991), (39, 84087), (42, 84105),

Gene: SaltySpitoon_137 Start: 83797, Stop: 84189, Start Num: 9

Candidate Starts for SaltySpitoon_137:

(Start: 9 @83797 has 33 MA's), (19, 83926), (26, 83989), (27, 84004), (39, 84100), (42, 84118),

Gene: Samisti12_130 Start: 85767, Stop: 86147, Start Num: 9
Candidate Starts for Samisti12_130:
(Start: 9 @85767 has 33 MA's), (19, 85896), (31, 85989), (35, 86031), (38, 86061), (39, 86070), (42, 86088),

Gene: Sephiroth_71 Start: 45074, Stop: 45475, Start Num: 11
Candidate Starts for Sephiroth_71:
(Start: 11 @45074 has 24 MA's), (21, 45230), (22, 45242), (35, 45323), (39, 45362), (42, 45380),

Gene: Sollertia_136 Start: 84211, Stop: 84603, Start Num: 9
Candidate Starts for Sollertia_136:
(Start: 9 @84211 has 33 MA's), (27, 84418), (39, 84514), (40, 84520), (42, 84532),

Gene: Spelly_139 Start: 83749, Stop: 84141, Start Num: 9
Candidate Starts for Spelly_139:
(Start: 9 @83749 has 33 MA's), (19, 83878), (26, 83941), (27, 83956), (39, 84052), (42, 84070),

Gene: Spilled_140 Start: 83867, Stop: 84259, Start Num: 9
Candidate Starts for Spilled_140:
(Start: 9 @83867 has 33 MA's), (26, 84059), (27, 84074), (39, 84170), (42, 84188),

Gene: Squillium_128 Start: 83085, Stop: 83477, Start Num: 11
Candidate Starts for Squillium_128:
(Start: 11 @83085 has 24 MA's), (Start: 15 @83136 has 3 MA's), (27, 83292), (39, 83388), (42, 83406),

Gene: Stanimal_135 Start: 84100, Stop: 84492, Start Num: 9
Candidate Starts for Stanimal_135:
(Start: 9 @84100 has 33 MA's), (27, 84307), (39, 84403), (40, 84409), (42, 84421),

Gene: StarPlatinum_140 Start: 85260, Stop: 85652, Start Num: 10
Candidate Starts for StarPlatinum_140:
(7, 85239), (8, 85248), (Start: 10 @85260 has 2 MA's), (26, 85452), (27, 85467), (39, 85563), (40, 85569), (42, 85581), (45, 85605),

Gene: Starbow_135 Start: 83769, Stop: 84161, Start Num: 9
Candidate Starts for Starbow_135:
(Start: 9 @83769 has 33 MA's), (19, 83898), (26, 83961), (27, 83976), (39, 84072), (42, 84090),

Gene: Sushi23_128 Start: 84744, Stop: 85124, Start Num: 9
Candidate Starts for Sushi23_128:
(Start: 9 @84744 has 33 MA's), (19, 84873), (31, 84966), (39, 85047), (42, 85065), (47, 85107),

Gene: Syleon_73 Start: 45012, Stop: 45413, Start Num: 11
Candidate Starts for Syleon_73:
(Start: 11 @45012 has 24 MA's), (21, 45168), (22, 45180), (35, 45261), (39, 45300), (42, 45318),

Gene: Targaryen_129 Start: 85325, Stop: 85705, Start Num: 11
Candidate Starts for Targaryen_129:
(Start: 11 @85325 has 24 MA's), (Start: 15 @85376 has 3 MA's), (19, 85454), (31, 85547), (39, 85628), (42, 85646), (47, 85688),

Gene: Deutsch_128 Start: 84949, Stop: 85329, Start Num: 9

Candidate Starts for Deutsch_128:

(Start: 9 @84949 has 33 MA's), (19, 85078), (31, 85171), (39, 85252), (42, 85270), (47, 85312),

Gene: TomSawyer_138 Start: 83815, Stop: 84207, Start Num: 9

Candidate Starts for TomSawyer_138:

(Start: 9 @83815 has 33 MA's), (26, 84007), (27, 84022), (39, 84118), (42, 84136),

Gene: Tomas_134 Start: 85932, Stop: 86324, Start Num: 11

Candidate Starts for Tomas_134:

(Start: 11 @85932 has 24 MA's), (22, 86100), (27, 86139), (37, 86214), (39, 86235), (42, 86253),

Gene: Tribute_128 Start: 84936, Stop: 85316, Start Num: 9

Candidate Starts for Tribute_128:

(Start: 9 @84936 has 33 MA's), (19, 85065), (31, 85158), (39, 85239), (42, 85257), (47, 85299),

Gene: Warpy_132 Start: 84837, Stop: 85217, Start Num: 11

Candidate Starts for Warpy_132:

(Start: 11 @84837 has 24 MA's), (Start: 15 @84888 has 3 MA's), (31, 85059), (39, 85140), (42, 85158), (47, 85200),

Gene: Watermoore_128 Start: 85163, Stop: 85543, Start Num: 9

Candidate Starts for Watermoore_128:

(Start: 9 @85163 has 33 MA's), (19, 85292), (31, 85385), (39, 85466), (42, 85484), (47, 85526),

Gene: WhereRU_130 Start: 82734, Stop: 83063, Start Num: 15

Candidate Starts for WhereRU_130:

(Start: 11 @82683 has 24 MA's), (Start: 15 @82734 has 3 MA's), (19, 82812), (31, 82905), (39, 82986), (42, 83004),

Gene: Wipeout_131 Start: 84139, Stop: 84531, Start Num: 9

Candidate Starts for Wipeout_131:

(Start: 9 @84139 has 33 MA's), (19, 84268), (26, 84331), (27, 84346), (39, 84442), (42, 84460),

Gene: Wofford_132 Start: 85088, Stop: 85480, Start Num: 10

Candidate Starts for Wofford_132:

(1, 85004), (4, 85040), (5, 85043), (7, 85067), (8, 85076), (Start: 10 @85088 has 2 MA's), (19, 85217), (26, 85280), (27, 85295), (39, 85391), (42, 85409),

Gene: Yaboi_136 Start: 83673, Stop: 84065, Start Num: 9

Candidate Starts for Yaboi_136:

(Start: 9 @83673 has 33 MA's), (27, 83880), (39, 83976), (40, 83982), (42, 83994),