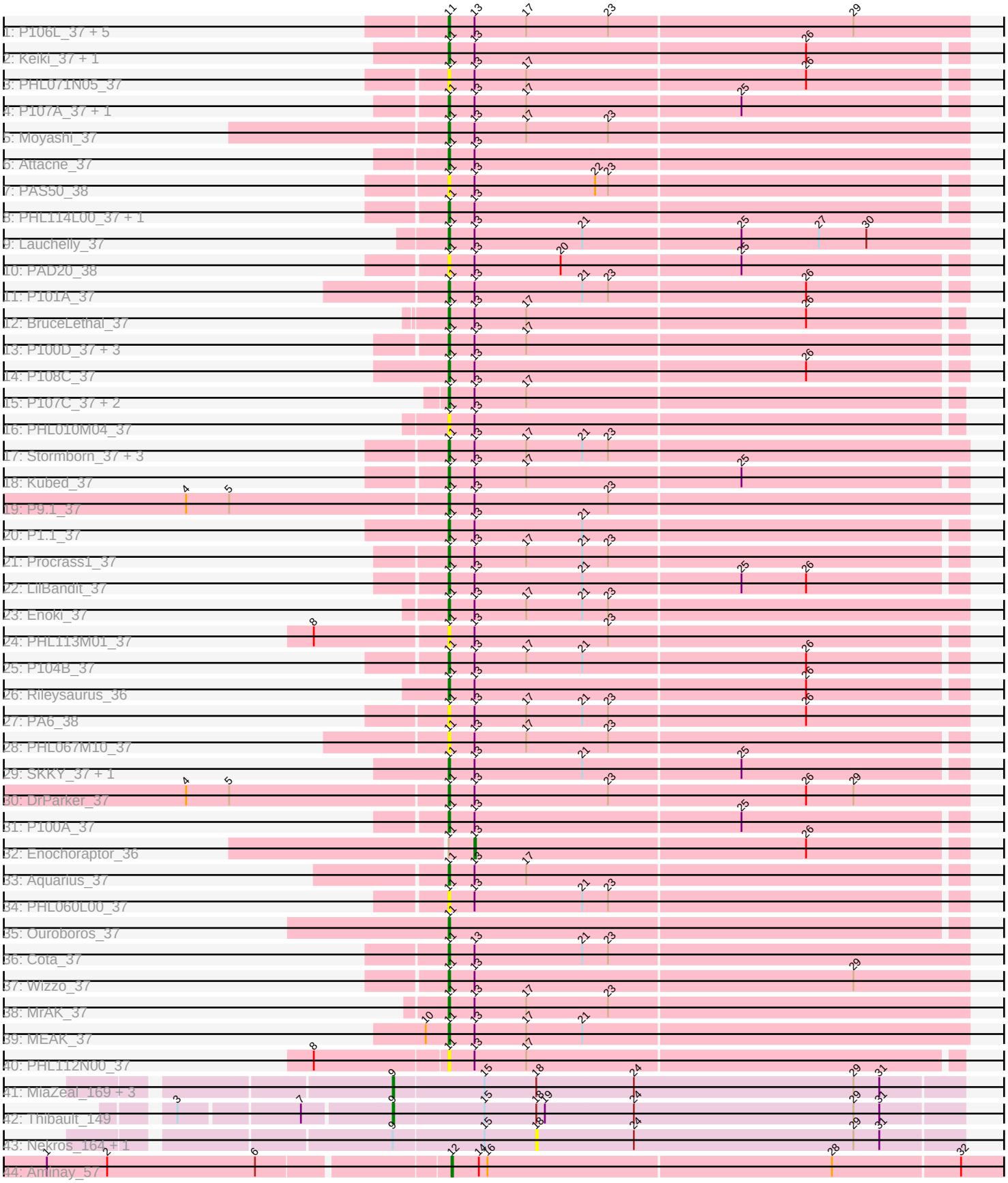
Pham 216151


1: P106L_37 + 5
2: Keiki_37 + 1
3: PHL071N05_37
4: P107A_37 + 1
5: Moyashi_37
6: Attacne_37
7: PAS50_38
8: PHL114L00_37 + 1
9: Lauchelly_37
10: PAD20_38
11: P101A_37
12: BruceLethal_37
13: P100D_37 + 3
14: P108C_37
15: P107C_37 + 2
16: PHL010M04_37
17: Stormborn_37 + 3
18: Kubed_37
19: P9.1_37
20: P1.1_37
21: Procrass1_37
22: LilBandit_37
23: Enoki_37
24: PHL113M01_37
25: P104B_37
26: Rileysaurus_36
27: PA6_38
28: PHL067M10_37
29: SKKY_37 + 1
30: DrParker_37
31: P100A_37
32: Enochoraptor_36
33: Aquarius_37
34: PHL060L00_37
35: Ouroboros_37
36: Cota_37
37: Wizzo_37
38: MrAK_37
39: MEAK_37
40: PHL112N00_37
41: MiaZeal_169 + 3
42: Thibault_149
43: Nekros_164 + 1
44: Antinay_57

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 216151 Report

This analysis was run 02/22/25 on database version 588.

Pham number 216151 has 65 members, 14 are drafts.

Phages represented in each track:
- Track 1 : P106L_37, P106M_37, P100.1_37, P106C_38, P106I_37, P106A_37
- Track 2 : Keiki_37, Pirate_37
- Track 3 : PHL071N05_37
- Track 4 : P107A_37, Solid_37
- Track 5 : Moyashi_37
- Track 6 : Attacne_37
- Track 7 : PAS50_38
- Track 8 : PHL114L00_37, P14.4_37
- Track 9 : Lauchelly_37
- Track 10 : PAD20_38
- Track 11 : P101A_37
- Track 12 : BruceLethal_37
- Track 13 : P100D_37, P105_37, QueenBey_37, Leviosa_37
- Track 14 : P108C_37
- Track 15 : P107C_37, ATCC29399BT_37, ATCC29399BC_37
- Track 16 : PHL010M04_37
- Track 17 : Stormborn_37, P104A_37, Supernova_37, PHL111M01_37
- Track 18 : Kubed_37
- Track 19 : P9.1_37
- Track 20 : P1.1_37
- Track 21 : Procrass1_37
- Track 22 : LilBandit_37
- Track 23 : Enoki_37
- Track 24 : PHL113M01_37
- Track 25 : P104B_37
- Track 26 : Rileysaurus_36
- Track 27 : PA6_38
- Track 28 : PHL067M10_37
- Track 29 : SKKY_37, PHL037M02_37
- Track 30 : DrParker_37
- Track 31 : P100A_37
- Track 32 : Enochoraptor_36
- Track 33 : Aquarius_37
- Track 34 : PHL060L00_37
- Track 35 : Ouroboros_37
- Track 36 : Cota_37
- Track 37 : Wizzo_37

• Track 38 : MrAK_37
• Track 39 : MEAK_37
• Track 40 : PHL112N00_37
• Track 41 : MiaZeal_169, LittleE_173, Lucky2013_162, Porcelain_166
• Track 42 : Thibault_149
• Track 43 : Nekros_164, Shaboozey_164
• Track 44 : Aminay_57

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

The start number called the most often in the published annotations is 11, it was called in 44 of the 51 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• ATCC29399BC_37, ATCC29399BT_37, Aquarius_37, Attacne_37, BruceLethal_37, Cota_37, DrParker_37, Enoki_37, Keiki_37, Kubed_37, Lauchelly_37, Leviosa_37, LilBandit_37, MEAK_37, Moyashi_37, MrAK_37, Ouroboros_37, P1.1_37, P100.1_37, P100A_37, P100D_37, P101A_37, P104A_37, P104B_37, P105_37, P106A_37, P106C_38, P106I_37, P106L_37, P106M_37, P107A_37, P107C_37, P108C_37, P14.4_37, P9.1_37, PA6_38, PAD20_38, PAS50_38, PHL010M04_37, PHL037M02_37, PHL060L00_37, PHL067M10_37, PHL071N05_37, PHL111M01_37, PHL112N00_37, PHL113M01_37, PHL114L00_37, Pirate_37, Procrass1_37, QueenBey_37, Rileysaurus_36, SKKY_37, Solid_37, Stormborn_37, Supernova_37, Wizzo_37,

Genes that have the "Most Annotated" start but do not call it:
• Enochoraptor_36,

Genes that do not have the "Most Annotated" start:
• Aminay_57, LittleE_173, Lucky2013_162, MiaZeal_169, Nekros_164, Porcelain_166, Shaboozey_164, Thibault_149,

Summary by start number:

Start 9:
• Found in 7 of 65 (10.8%) of genes in pham
• Manual Annotations of this start: 5 of 51
• Called 71.4% of time when present
• Phage (with cluster) where this start called: LittleE_173 (J), Lucky2013_162 (J), MiaZeal_169 (J), Porcelain_166 (J), Thibault_149 (J),

Start 11:
• Found in 57 of 65 (87.7%) of genes in pham
• Manual Annotations of this start: 44 of 51
• Called 98.2% of time when present
• Phage (with cluster) where this start called: ATCC29399BC_37 (BU), ATCC29399BT_37 (BU), Aquarius_37 (BU), Attacne_37 (BU), BruceLethal_37 (BU), Cota_37 (BU), DrParker_37 (BU), Enoki_37 (BU), Keiki_37 (BU), Kubed_37 (BU), Lauchelly_37 (BU), Leviosa_37 (BU), LilBandit_37 (BU), MEAK_37 (BU), Moyashi_37 (BU), MrAK_37 (BU), Ouroboros_37 (BU), P1.1_37 (BU), P100.1_37 (BU), P100A_37

(BU), P100D_37 (BU), P101A_37 (BU), P104A_37 (BU), P104B_37 (BU), P105_37 (BU), P106A_37 (BU), P106C_38 (BU), P106I_37 (BU), P106L_37 (BU), P106M_37 (BU), P107A_37 (BU), P107C_37 (BU), P108C_37 (BU), P14.4_37 (BU), P9.1_37 (BU), PA6_38 (BU), PAD20_38 (BU), PAS50_38 (BU), PHL010M04_37 (BU), PHL037M02_37 (BU), PHL060L00_37 (BU), PHL067M10_37 (BU), PHL071N05_37 (BU), PHL111M01_37 (BU), PHL112N00_37 (BU), PHL113M01_37 (BU), PHL114L00_37 (BU), Pirate_37 (BU), Procrass1_37 (BU), QueenBey_37 (BU), Rileysaurus_36 (BU), SKKY_37 (BU), Solid_37 (BU), Stormborn_37 (BU), Supernova_37 (BU), Wizzo_37 (BU),

Start 12:
• Found in 1 of 65 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 51
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Aminay_57 (K7),

Start 13:
• Found in 56 of 65 (86.2%) of genes in pham
• Manual Annotations of this start: 1 of 51
• Called 1.8% of time when present
• Phage (with cluster) where this start called: Enochoraptor_36 (BU),

Start 18:
• Found in 7 of 65 (10.8%) of genes in pham
• No Manual Annotations of this start.
• Called 28.6% of time when present
• Phage (with cluster) where this start called: Nekros_164 (J), Shaboozey_164 (J),

Summary by clusters:

There are 3 clusters represented in this pham: BU, J, K7,

Info for manual annotations of cluster BU:
•Start number 11 was manually annotated 44 times for cluster BU.
•Start number 13 was manually annotated 1 time for cluster BU.

Info for manual annotations of cluster J:
•Start number 9 was manually annotated 5 times for cluster J.

Info for manual annotations of cluster K7:
•Start number 12 was manually annotated 1 time for cluster K7.

Gene Information:

Gene: ATCC29399BC_37 Start: 24986, Stop: 24636, Start Num: 11
Candidate Starts for ATCC29399BC_37:
(Start: 11 @24986 has 44 MA's), (Start: 13 @24968 has 1 MA's), (17, 24932),

Gene: ATCC29399BT_37 Start: 24986, Stop: 24636, Start Num: 11
Candidate Starts for ATCC29399BT_37:
(Start: 11 @24986 has 44 MA's), (Start: 13 @24968 has 1 MA's), (17, 24932),

Gene: Aminay_57 Start: 39956, Stop: 40345, Start Num: 12
Candidate Starts for Aminay_57:
(1, 39689), (2, 39731), (6, 39833), (Start: 12 @39956 has 1 MA's), (14, 39974), (16, 39980), (28, 40217), (32, 40304),

Gene: Aquarius_37 Start: 24448, Stop: 24095, Start Num: 11
Candidate Starts for Aquarius_37:
(Start: 11 @24448 has 44 MA's), (Start: 13 @24430 has 1 MA's), (17, 24394),

Gene: Attacne_37 Start: 24487, Stop: 24128, Start Num: 11
Candidate Starts for Attacne_37:
(Start: 11 @24487 has 44 MA's), (Start: 13 @24469 has 1 MA's),

Gene: BruceLethal_37 Start: 25011, Stop: 24661, Start Num: 11
Candidate Starts for BruceLethal_37:
(Start: 11 @25011 has 44 MA's), (Start: 13 @24993 has 1 MA's), (17, 24957), (26, 24765),

Gene: Cota_37 Start: 25045, Stop: 24686, Start Num: 11
Candidate Starts for Cota_37:
(Start: 11 @25045 has 44 MA's), (Start: 13 @25027 has 1 MA's), (21, 24952), (23, 24934),

Gene: DrParker_37 Start: 25088, Stop: 24729, Start Num: 11
Candidate Starts for DrParker_37:
(4, 25265), (5, 25235), (Start: 11 @25088 has 44 MA's), (Start: 13 @25070 has 1 MA's), (23, 24977), (26, 24842), (29, 24809),

Gene: Enochoraptor_36 Start: 25008, Stop: 24673, Start Num: 13
Candidate Starts for Enochoraptor_36:
(Start: 11 @25026 has 44 MA's), (Start: 13 @25008 has 1 MA's), (26, 24780),

Gene: Enoki_37 Start: 25032, Stop: 24673, Start Num: 11
Candidate Starts for Enoki_37:
(Start: 11 @25032 has 44 MA's), (Start: 13 @25014 has 1 MA's), (17, 24978), (21, 24939), (23, 24921),

Gene: Keiki_37 Start: 24960, Stop: 24607, Start Num: 11
Candidate Starts for Keiki_37:
(Start: 11 @24960 has 44 MA's), (Start: 13 @24942 has 1 MA's), (26, 24714),

Gene: Kubed_37 Start: 25015, Stop: 24662, Start Num: 11
Candidate Starts for Kubed_37:
(Start: 11 @25015 has 44 MA's), (Start: 13 @24997 has 1 MA's), (17, 24961), (25, 24814),

Gene: Lauchelly_37 Start: 25059, Stop: 24700, Start Num: 11
Candidate Starts for Lauchelly_37:
(Start: 11 @25059 has 44 MA's), (Start: 13 @25041 has 1 MA's), (21, 24966), (25, 24858), (27, 24804), (30, 24771),

Gene: Leviosa_37 Start: 25033, Stop: 24680, Start Num: 11
Candidate Starts for Leviosa_37:
(Start: 11 @25033 has 44 MA's), (Start: 13 @25015 has 1 MA's), (17, 24979),

Gene: LilBandit_37 Start: 24846, Stop: 24493, Start Num: 11

Candidate Starts for LilBandit_37:
(Start: 11 @24846 has 44 MA's), (Start: 13 @24828 has 1 MA's), (21, 24753), (25, 24645), (26, 24600),

Gene: LittleE_173 Start: 88941, Stop: 89330, Start Num: 9
Candidate Starts for LittleE_173:
(Start: 9 @88941 has 5 MA's), (15, 89001), (18, 89037), (24, 89103), (29, 89256), (31, 89274),

Gene: Lucky2013_162 Start: 84438, Stop: 84827, Start Num: 9
Candidate Starts for Lucky2013_162:
(Start: 9 @84438 has 5 MA's), (15, 84498), (18, 84534), (24, 84600), (29, 84753), (31, 84771),

Gene: MEAK_37 Start: 24711, Stop: 24352, Start Num: 11
Candidate Starts for MEAK_37:
(10, 24723), (Start: 11 @24711 has 44 MA's), (Start: 13 @24693 has 1 MA's), (17, 24657), (21, 24618),

Gene: MiaZeal_169 Start: 85585, Stop: 85974, Start Num: 9
Candidate Starts for MiaZeal_169:
(Start: 9 @85585 has 5 MA's), (15, 85645), (18, 85681), (24, 85747), (29, 85900), (31, 85918),

Gene: Moyashi_37 Start: 24819, Stop: 24460, Start Num: 11
Candidate Starts for Moyashi_37:
(Start: 11 @24819 has 44 MA's), (Start: 13 @24801 has 1 MA's), (17, 24765), (23, 24708),

Gene: MrAK_37 Start: 24832, Stop: 24473, Start Num: 11
Candidate Starts for MrAK_37:
(Start: 11 @24832 has 44 MA's), (Start: 13 @24814 has 1 MA's), (17, 24778), (23, 24721),

Gene: Nekros_164 Start: 87481, Stop: 87774, Start Num: 18
Candidate Starts for Nekros_164:
(Start: 9 @87385 has 5 MA's), (15, 87445), (18, 87481), (24, 87547), (29, 87700), (31, 87718),

Gene: Ouroboros_37 Start: 25031, Stop: 24678, Start Num: 11
Candidate Starts for Ouroboros_37:
(Start: 11 @25031 has 44 MA's),

Gene: P1.1_37 Start: 25059, Stop: 24706, Start Num: 11
Candidate Starts for P1.1_37:
(Start: 11 @25059 has 44 MA's), (Start: 13 @25041 has 1 MA's), (21, 24966),

Gene: P100.1_37 Start: 25109, Stop: 24750, Start Num: 11
Candidate Starts for P100.1_37:
(Start: 11 @25109 has 44 MA's), (Start: 13 @25091 has 1 MA's), (17, 25055), (23, 24998), (29, 24830),

Gene: P100A_37 Start: 25041, Stop: 24688, Start Num: 11
Candidate Starts for P100A_37:
(Start: 11 @25041 has 44 MA's), (Start: 13 @25023 has 1 MA's), (25, 24840),

Gene: P100D_37 Start: 25020, Stop: 24667, Start Num: 11
Candidate Starts for P100D_37:
(Start: 11 @25020 has 44 MA's), (Start: 13 @25002 has 1 MA's), (17, 24966),

Gene: P101A_37 Start: 25052, Stop: 24699, Start Num: 11
Candidate Starts for P101A_37:

(Start: 11 @25052 has 44 MA's), (Start: 13 @25034 has 1 MA's), (21, 24959), (23, 24941), (26, 24806),

Gene: P104A_37 Start: 24814, Stop: 24461, Start Num: 11
Candidate Starts for P104A_37:
(Start: 11 @24814 has 44 MA's), (Start: 13 @24796 has 1 MA's), (17, 24760), (21, 24721), (23, 24703),

Gene: P104B_37 Start: 25021, Stop: 24668, Start Num: 11
Candidate Starts for P104B_37:
(Start: 11 @25021 has 44 MA's), (Start: 13 @25003 has 1 MA's), (17, 24967), (21, 24928), (26, 24775),

Gene: P105_37 Start: 24696, Stop: 24343, Start Num: 11
Candidate Starts for P105_37:
(Start: 11 @24696 has 44 MA's), (Start: 13 @24678 has 1 MA's), (17, 24642),

Gene: P106A_37 Start: 25126, Stop: 24767, Start Num: 11
Candidate Starts for P106A_37:
(Start: 11 @25126 has 44 MA's), (Start: 13 @25108 has 1 MA's), (17, 25072), (23, 25015), (29, 24847),

Gene: P106C_38 Start: 25042, Stop: 24683, Start Num: 11
Candidate Starts for P106C_38:
(Start: 11 @25042 has 44 MA's), (Start: 13 @25024 has 1 MA's), (17, 24988), (23, 24931), (29, 24763),

Gene: P106I_37 Start: 24871, Stop: 24512, Start Num: 11
Candidate Starts for P106I_37:
(Start: 11 @24871 has 44 MA's), (Start: 13 @24853 has 1 MA's), (17, 24817), (23, 24760), (29, 24592),

Gene: P106L_37 Start: 25042, Stop: 24683, Start Num: 11
Candidate Starts for P106L_37:
(Start: 11 @25042 has 44 MA's), (Start: 13 @25024 has 1 MA's), (17, 24988), (23, 24931), (29, 24763),

Gene: P106M_37 Start: 25042, Stop: 24683, Start Num: 11
Candidate Starts for P106M_37:
(Start: 11 @25042 has 44 MA's), (Start: 13 @25024 has 1 MA's), (17, 24988), (23, 24931), (29, 24763),

Gene: P107A_37 Start: 25060, Stop: 24707, Start Num: 11
Candidate Starts for P107A_37:
(Start: 11 @25060 has 44 MA's), (Start: 13 @25042 has 1 MA's), (17, 25006), (25, 24859),

Gene: P107C_37 Start: 24986, Stop: 24636, Start Num: 11
Candidate Starts for P107C_37:
(Start: 11 @24986 has 44 MA's), (Start: 13 @24968 has 1 MA's), (17, 24932),

Gene: P108C_37 Start: 25017, Stop: 24664, Start Num: 11
Candidate Starts for P108C_37:
(Start: 11 @25017 has 44 MA's), (Start: 13 @24999 has 1 MA's), (26, 24771),

Gene: P14.4_37 Start: 25029, Stop: 24676, Start Num: 11
Candidate Starts for P14.4_37:
(Start: 11 @25029 has 44 MA's), (Start: 13 @25011 has 1 MA's),

Gene: P9.1_37 Start: 25060, Stop: 24701, Start Num: 11
Candidate Starts for P9.1_37:
(4, 25237), (5, 25207), (Start: 11 @25060 has 44 MA's), (Start: 13 @25042 has 1 MA's), (23, 24949),

Gene: PA6_38 Start: 25025, Stop: 24666, Start Num: 11
Candidate Starts for PA6_38:
(Start: 11 @25025 has 44 MA's), (Start: 13 @25007 has 1 MA's), (17, 24971), (21, 24932), (23, 24914), (26, 24779),

Gene: PAD20_38 Start: 24785, Stop: 24432, Start Num: 11
Candidate Starts for PAD20_38:
(Start: 11 @24785 has 44 MA's), (Start: 13 @24767 has 1 MA's), (20, 24707), (25, 24584),

Gene: PAS50_38 Start: 25033, Stop: 24680, Start Num: 11
Candidate Starts for PAS50_38:
(Start: 11 @25033 has 44 MA's), (Start: 13 @25015 has 1 MA's), (22, 24931), (23, 24922),

Gene: PHL010M04_37 Start: 25018, Stop: 24668, Start Num: 11
Candidate Starts for PHL010M04_37:
(Start: 11 @25018 has 44 MA's), (Start: 13 @25000 has 1 MA's),

Gene: PHL037M02_37 Start: 25019, Stop: 24666, Start Num: 11
Candidate Starts for PHL037M02_37:
(Start: 11 @25019 has 44 MA's), (Start: 13 @25001 has 1 MA's), (21, 24926), (25, 24818),

Gene: PHL060L00_37 Start: 24865, Stop: 24512, Start Num: 11
Candidate Starts for PHL060L00_37:
(Start: 11 @24865 has 44 MA's), (Start: 13 @24847 has 1 MA's), (21, 24772), (23, 24754),

Gene: PHL067M10_37 Start: 24983, Stop: 24630, Start Num: 11
Candidate Starts for PHL067M10_37:
(Start: 11 @24983 has 44 MA's), (Start: 13 @24965 has 1 MA's), (17, 24929), (23, 24872),

Gene: PHL071N05_37 Start: 25049, Stop: 24696, Start Num: 11
Candidate Starts for PHL071N05_37:
(Start: 11 @25049 has 44 MA's), (Start: 13 @25031 has 1 MA's), (17, 24995), (26, 24803),

Gene: PHL111M01_37 Start: 24749, Stop: 24390, Start Num: 11
Candidate Starts for PHL111M01_37:
(Start: 11 @24749 has 44 MA's), (Start: 13 @24731 has 1 MA's), (17, 24695), (21, 24656), (23, 24638),

Gene: PHL112N00_37 Start: 25041, Stop: 24691, Start Num: 11
Candidate Starts for PHL112N00_37:
(8, 25128), (Start: 11 @25041 has 44 MA's), (Start: 13 @25023 has 1 MA's), (17, 24987),

Gene: PHL113M01_37 Start: 24790, Stop: 24437, Start Num: 11
Candidate Starts for PHL113M01_37:
(8, 24877), (Start: 11 @24790 has 44 MA's), (Start: 13 @24772 has 1 MA's), (23, 24679),

Gene: PHL114L00_37 Start: 24979, Stop: 24626, Start Num: 11
Candidate Starts for PHL114L00_37:
(Start: 11 @24979 has 44 MA's), (Start: 13 @24961 has 1 MA's),

Gene: Pirate_37 Start: 24945, Stop: 24592, Start Num: 11
Candidate Starts for Pirate_37:
(Start: 11 @24945 has 44 MA's), (Start: 13 @24927 has 1 MA's), (26, 24699),

Gene: Porcelain_166 Start: 85384, Stop: 85773, Start Num: 9
Candidate Starts for Porcelain_166:
(Start: 9 @85384 has 5 MA's), (15, 85444), (18, 85480), (24, 85546), (29, 85699), (31, 85717),

Gene: Procrass1_37 Start: 24972, Stop: 24619, Start Num: 11
Candidate Starts for Procrass1_37:
(Start: 11 @24972 has 44 MA's), (Start: 13 @24954 has 1 MA's), (17, 24918), (21, 24879), (23, 24861),

Gene: QueenBey_37 Start: 24997, Stop: 24644, Start Num: 11
Candidate Starts for QueenBey_37:
(Start: 11 @24997 has 44 MA's), (Start: 13 @24979 has 1 MA's), (17, 24943),

Gene: Rileysaurus_36 Start: 25041, Stop: 24688, Start Num: 11
Candidate Starts for Rileysaurus_36:
(Start: 11 @25041 has 44 MA's), (Start: 13 @25023 has 1 MA's), (26, 24795),

Gene: SKKY_37 Start: 24777, Stop: 24424, Start Num: 11
Candidate Starts for SKKY_37:
(Start: 11 @24777 has 44 MA's), (Start: 13 @24759 has 1 MA's), (21, 24684), (25, 24576),

Gene: Shaboozey_164 Start: 85086, Stop: 85379, Start Num: 18
Candidate Starts for Shaboozey_164:
(Start: 9 @84990 has 5 MA's), (15, 85050), (18, 85086), (24, 85152), (29, 85305), (31, 85323),

Gene: Solid_37 Start: 25020, Stop: 24667, Start Num: 11
Candidate Starts for Solid_37:
(Start: 11 @25020 has 44 MA's), (Start: 13 @25002 has 1 MA's), (17, 24966), (25, 24819),

Gene: Stormborn_37 Start: 24639, Stop: 24280, Start Num: 11
Candidate Starts for Stormborn_37:
(Start: 11 @24639 has 44 MA's), (Start: 13 @24621 has 1 MA's), (17, 24585), (21, 24546), (23, 24528),

Gene: Supernova_37 Start: 24772, Stop: 24419, Start Num: 11
Candidate Starts for Supernova_37:
(Start: 11 @24772 has 44 MA's), (Start: 13 @24754 has 1 MA's), (17, 24718), (21, 24679), (23, 24661),

Gene: Thibault_149 Start: 84761, Stop: 85150, Start Num: 9
Candidate Starts for Thibault_149:
(3, 84632), (7, 84710), (Start: 9 @84761 has 5 MA's), (15, 84821), (18, 84857), (19, 84863), (24, 84923), (29, 85076), (31, 85094),

Gene: Wizzo_37 Start: 24505, Stop: 24146, Start Num: 11
Candidate Starts for Wizzo_37:
(Start: 11 @24505 has 44 MA's), (Start: 13 @24487 has 1 MA's), (29, 24226),