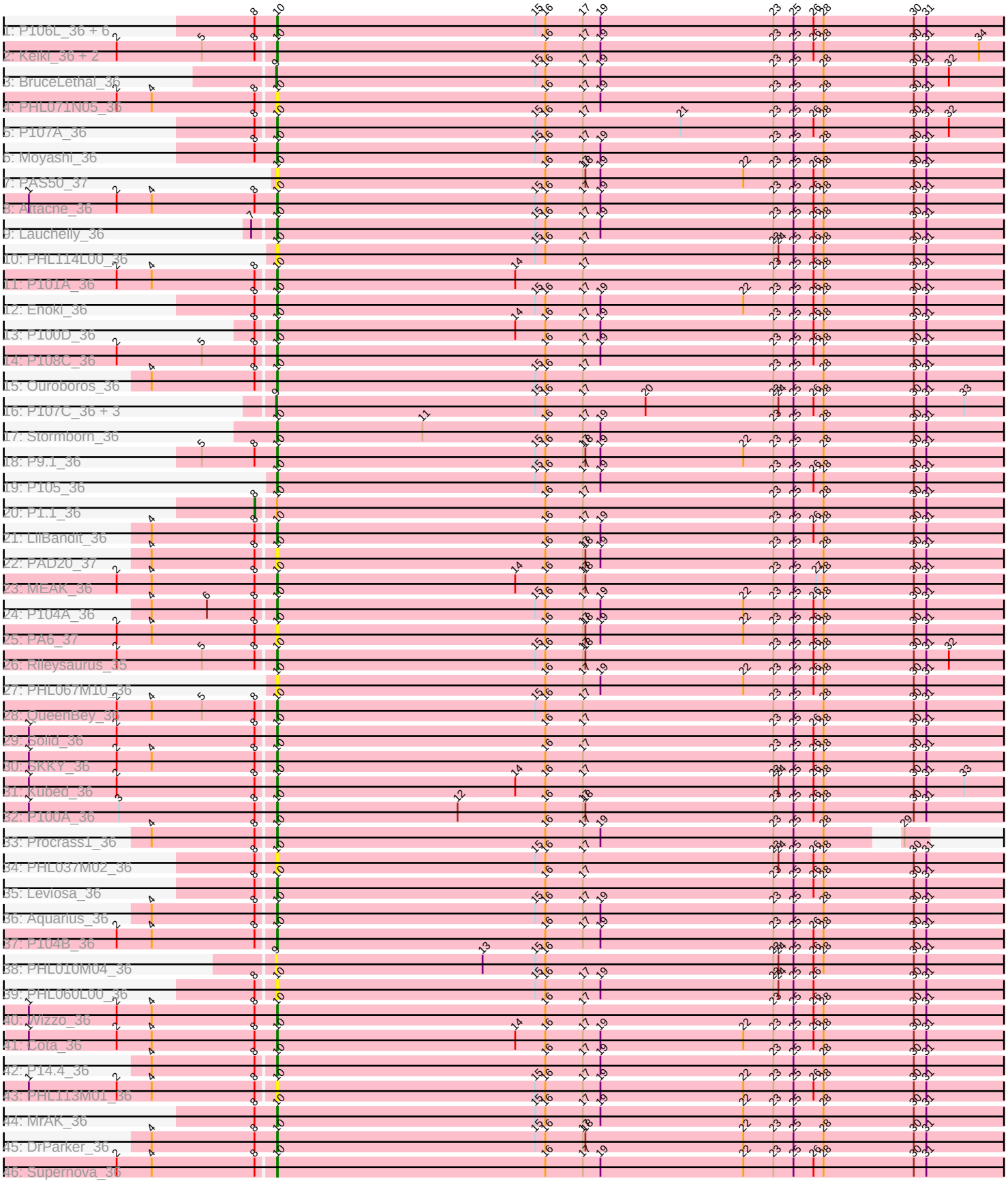
Pham 224619


1: P106L_36 + 6
2: Keiki_36 + 2
3: BruceLethal_36
4: PHL071N05_36
5: P107A_36
6: Moyashi_36
7: PAS50_37
8: Attacne_36
9: Lauchelly_36
10: PHL114L00_36
11: P101A_36
12: Enoki_36
13: P100D_36
14: P108C_36
15: Ouroboros_36
16: P107C_36 + 3
17: Stormborn_36
18: P9.1_36
19: P105_36
20: P1.1_36
21: LilBandit_36
22: PAD20_37
23: MEAK_36
24: P104A_36
25: PA6_37
26: Rileysaurus_35
27: PHL067M10_36
28: QueenBey_36
29: Solid_36
30: SKKY_36
31: Kubed_36
32: P100A_36
33: Procrass1_36
34: PHL037M02_36
35: Leviosa_36
36: Aquarius_36
37: P104B_36
38: PHL010M04_36
39: PHL060L00_36
40: Wizzo_36
41: Lota_36
42: P14.4_36
43: PHL113M01_36
44: MrAK_36
45: DrParker_36
46: Supernova_36

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 224619 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224619 has 57 members, 12 are drafts.

Phages represented in each track:
- Track 1 : P106L_36, P106M_36, P100.1_36, P106C_37, P106I_36, P106A_36, PHL111M01_36
- Track 2 : Keiki_36, Pirate_36, Enochoraptor_35
- Track 3 : BruceLethal_36
- Track 4 : PHL071N05_36
- Track 5 : P107A_36
- Track 6 : Moyashi_36
- Track 7 : PAS50_37
- Track 8 : Attacne_36
- Track 9 : Lauchelly_36
- Track 10 : PHL114L00_36
- Track 11 : P101A_36
- Track 12 : Enoki_36
- Track 13 : P100D_36
- Track 14 : P108C_36
- Track 15 : Ouroboros_36
- Track 16 : P107C_36, ATCC29399BT_36, ATCC29399BC_36, PHL112N00_36
- Track 17 : Stormborn_36
- Track 18 : P9.1_36
- Track 19 : P105_36
- Track 20 : P1.1_36
- Track 21 : LilBandit_36
- Track 22 : PAD20_37
- Track 23 : MEAK_36
- Track 24 : P104A_36
- Track 25 : PA6_37
- Track 26 : Rileysaurus_35
- Track 27 : PHL067M10_36
- Track 28 : QueenBey_36
- Track 29 : Solid_36
- Track 30 : SKKY_36
- Track 31 : Kubed_36
- Track 32 : P100A_36
- Track 33 : Procrass1_36
- Track 34 : PHL037M02_36
- Track 35 : Leviosa_36
- Track 36 : Aquarius_36

• Track 37 : P104B_36
• Track 38 : PHL010M04_36
• Track 39 : PHL060L00_36
• Track 40 : Wizzo_36
• Track 41 : Cota_36
• Track 42 : P14.4_36
• Track 43 : PHL113M01_36
• Track 44 : MrAK_36
• Track 45 : DrParker_36
• Track 46 : Supernova_36

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

The start number called the most often in the published annotations is 10, it was called in 40 of the 45 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aquarius_36, Attacne_36, Cota_36, DrParker_36, Enochoraptor_35, Enoki_36, Keiki_36, Kubed_36, Lauchelly_36, Leviosa_36, LilBandit_36, MEAK_36, Moyashi_36, MrAK_36, Ouroboros_36, P100.1_36, P100A_36, P100D_36, P101A_36, P104A_36, P104B_36, P105_36, P106A_36, P106C_37, P106I_36, P106L_36, P106M_36, P107A_36, P108C_36, P14.4_36, P9.1_36, PA6_37, PAD20_37, PAS50_37, PHL037M02_36, PHL060L00_36, PHL067M10_36, PHL071N05_36, PHL111M01_36, PHL113M01_36, PHL114L00_36, Pirate_36, Procrass1_36, QueenBey_36, Rileysaurus_35, SKKY_36, Solid_36, Stormborn_36, Supernova_36, Wizzo_36,

Genes that have the "Most Annotated" start but do not call it:
• P1.1_36,

Genes that do not have the "Most Annotated" start:
• ATCC29399BC_36, ATCC29399BT_36, BruceLethal_36, P107C_36, PHL010M04_36, PHL112N00_36,

Summary by start number:

Start 8:
• Found in 45 of 57 (78.9%) of genes in pham
• Manual Annotations of this start: 1 of 45
• Called 2.2% of time when present
• Phage (with cluster) where this start called: P1.1_36 (BU),

Start 9:
• Found in 6 of 57 (10.5%) of genes in pham
• Manual Annotations of this start: 4 of 45
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ATCC29399BC_36 (BU), ATCC29399BT_36 (BU), BruceLethal_36 (BU), P107C_36 (BU), PHL010M04_36 (BU), PHL112N00_36 (BU),

Start 10:
• Found in 51 of 57 (89.5%) of genes in pham
• Manual Annotations of this start: 40 of 45
• Called 98.0% of time when present
• Phage (with cluster) where this start called: Aquarius_36 (BU), Attacne_36 (BU), Cota_36 (BU), DrParker_36 (BU), Enochoraptor_35 (BU), Enoki_36 (BU), Keiki_36 (BU), Kubed_36 (BU), Lauchelly_36 (BU), Leviosa_36 (BU), LilBandit_36 (BU), MEAK_36 (BU), Moyashi_36 (BU), MrAK_36 (BU), Ouroboros_36 (BU), P100.1_36 (BU), P100A_36 (BU), P100D_36 (BU), P101A_36 (BU), P104A_36 (BU), P104B_36 (BU), P105_36 (BU), P106A_36 (BU), P106C_37 (BU), P106I_36 (BU), P106L_36 (BU), P106M_36 (BU), P107A_36 (BU), P108C_36 (BU), P14.4_36 (BU), P9.1_36 (BU), PA6_37 (BU), PAD20_37 (BU), PAS50_37 (BU), PHL037M02_36 (BU), PHL060L00_36 (BU), PHL067M10_36 (BU), PHL071N05_36 (BU), PHL111M01_36 (BU), PHL113M01_36 (BU), PHL114L00_36 (BU), Pirate_36 (BU), Procrass1_36 (BU), QueenBey_36 (BU), Rileysaurus_35 (BU), SKKY_36 (BU), Solid_36 (BU), Stormborn_36 (BU), Supernova_36 (BU), Wizzo_36 (BU),

Summary by clusters:

There is one cluster represented in this pham: BU

Info for manual annotations of cluster BU:
•Start number 8 was manually annotated 1 time for cluster BU.
•Start number 9 was manually annotated 4 times for cluster BU.
•Start number 10 was manually annotated 40 times for cluster BU.

Gene Information:

Gene: ATCC29399BC_36 Start: 24634, Stop: 23693, Start Num: 9
Candidate Starts for ATCC29399BC_36:
(Start: 9 @24634 has 4 MA's), (15, 24325), (16, 24313), (17, 24268), (20, 24193), (23, 24040), (24, 24034), (25, 24016), (26, 23992), (28, 23980), (30, 23872), (31, 23857), (33, 23812),

Gene: ATCC29399BT_36 Start: 24634, Stop: 23693, Start Num: 9
Candidate Starts for ATCC29399BT_36:
(Start: 9 @24634 has 4 MA's), (15, 24325), (16, 24313), (17, 24268), (20, 24193), (23, 24040), (24, 24034), (25, 24016), (26, 23992), (28, 23980), (30, 23872), (31, 23857), (33, 23812),

Gene: Aquarius_36 Start: 24095, Stop: 23154, Start Num: 10
Candidate Starts for Aquarius_36:
(4, 24239), (Start: 8 @24116 has 1 MA's), (Start: 10 @24095 has 40 MA's), (15, 23786), (16, 23774), (17, 23729), (19, 23708), (23, 23501), (25, 23477), (28, 23441), (30, 23333), (31, 23318),

Gene: Attacne_36 Start: 24128, Stop: 23187, Start Num: 10
Candidate Starts for Attacne_36:
(1, 24425), (2, 24320), (4, 24278), (Start: 8 @24155 has 1 MA's), (Start: 10 @24128 has 40 MA's), (15, 23819), (16, 23807), (17, 23762), (19, 23741), (23, 23534), (25, 23510), (26, 23486), (28, 23474), (30, 23366), (31, 23351),

Gene: BruceLethal_36 Start: 24659, Stop: 23721, Start Num: 9
Candidate Starts for BruceLethal_36:

(Start: 9 @24659 has 4 MA's), (15, 24350), (16, 24338), (17, 24293), (19, 24272), (23, 24065), (25, 24041), (28, 24005), (30, 23897), (31, 23882), (32, 23855),

Gene: Cota_36 Start: 24686, Stop: 23745, Start Num: 10
Candidate Starts for Cota_36:
(1, 24983), (2, 24878), (4, 24836), (Start: 8 @24713 has 1 MA's), (Start: 10 @24686 has 40 MA's), (14, 24401), (16, 24365), (17, 24320), (19, 24299), (22, 24128), (23, 24092), (25, 24068), (26, 24044), (28, 24032), (30, 23924), (31, 23909),

Gene: DrParker_36 Start: 24729, Stop: 23782, Start Num: 10
Candidate Starts for DrParker_36:
(4, 24879), (Start: 8 @24756 has 1 MA's), (Start: 10 @24729 has 40 MA's), (15, 24420), (16, 24408), (17, 24363), (18, 24360), (22, 24171), (23, 24135), (25, 24111), (28, 24075), (30, 23967), (31, 23952),

Gene: Enochoraptor_35 Start: 24673, Stop: 23726, Start Num: 10
Candidate Starts for Enochoraptor_35:
(2, 24859), (5, 24757), (Start: 8 @24694 has 1 MA's), (Start: 10 @24673 has 40 MA's), (16, 24352), (17, 24307), (19, 24286), (23, 24079), (25, 24055), (26, 24031), (28, 24019), (30, 23911), (31, 23896), (34, 23833),

Gene: Enoki_36 Start: 24673, Stop: 23732, Start Num: 10
Candidate Starts for Enoki_36:
(Start: 8 @24700 has 1 MA's), (Start: 10 @24673 has 40 MA's), (15, 24364), (16, 24352), (17, 24307), (19, 24286), (22, 24115), (23, 24079), (25, 24055), (26, 24031), (28, 24019), (30, 23911), (31, 23896),

Gene: Keiki_36 Start: 24607, Stop: 23660, Start Num: 10
Candidate Starts for Keiki_36:
(2, 24793), (5, 24691), (Start: 8 @24628 has 1 MA's), (Start: 10 @24607 has 40 MA's), (16, 24286), (17, 24241), (19, 24220), (23, 24013), (25, 23989), (26, 23965), (28, 23953), (30, 23845), (31, 23830), (34, 23767),

Gene: Kubed_36 Start: 24662, Stop: 23721, Start Num: 10
Candidate Starts for Kubed_36:
(1, 24953), (2, 24848), (Start: 8 @24683 has 1 MA's), (Start: 10 @24662 has 40 MA's), (14, 24377), (16, 24341), (17, 24296), (23, 24068), (24, 24062), (25, 24044), (26, 24020), (28, 24008), (30, 23900), (31, 23885), (33, 23840),

Gene: Lauchelly_36 Start: 24703, Stop: 23756, Start Num: 10
Candidate Starts for Lauchelly_36:
(7, 24727), (Start: 10 @24703 has 40 MA's), (15, 24394), (16, 24382), (17, 24337), (19, 24316), (23, 24109), (25, 24085), (26, 24061), (28, 24049), (30, 23941), (31, 23926),

Gene: Leviosa_36 Start: 24680, Stop: 23742, Start Num: 10
Candidate Starts for Leviosa_36:
(Start: 8 @24701 has 1 MA's), (Start: 10 @24680 has 40 MA's), (16, 24359), (17, 24314), (23, 24086), (25, 24062), (26, 24038), (28, 24026), (30, 23918), (31, 23903),

Gene: LilBandit_36 Start: 24493, Stop: 23546, Start Num: 10
Candidate Starts for LilBandit_36:
(4, 24637), (Start: 8 @24514 has 1 MA's), (Start: 10 @24493 has 40 MA's), (16, 24172), (17, 24127), (19, 24106), (23, 23899), (25, 23875), (26, 23851), (28, 23839), (30, 23731), (31, 23716),

Gene: MEAK_36 Start: 24352, Stop: 23411, Start Num: 10

Candidate Starts for MEAK_36:
(2, 24544), (4, 24502), (Start: 8 @24379 has 1 MA's), (Start: 10 @24352 has 40 MA's), (14, 24067), (16, 24031), (17, 23986), (18, 23983), (23, 23758), (25, 23734), (27, 23707), (28, 23698), (30, 23590), (31, 23575),

Gene: Moyashi_36 Start: 24460, Stop: 23519, Start Num: 10
Candidate Starts for Moyashi_36:
(Start: 8 @24487 has 1 MA's), (Start: 10 @24460 has 40 MA's), (15, 24151), (16, 24139), (17, 24094), (19, 24073), (23, 23866), (25, 23842), (28, 23806), (30, 23698), (31, 23683),

Gene: MrAK_36 Start: 24473, Stop: 23532, Start Num: 10
Candidate Starts for MrAK_36:
(Start: 8 @24500 has 1 MA's), (Start: 10 @24473 has 40 MA's), (15, 24164), (16, 24152), (17, 24107), (19, 24086), (22, 23915), (23, 23879), (25, 23855), (28, 23819), (30, 23711), (31, 23696),

Gene: Ouroboros_36 Start: 24678, Stop: 23731, Start Num: 10
Candidate Starts for Ouroboros_36:
(4, 24822), (Start: 8 @24699 has 1 MA's), (Start: 10 @24678 has 40 MA's), (15, 24369), (16, 24357), (17, 24312), (23, 24084), (25, 24060), (28, 24024), (30, 23916), (31, 23901),

Gene: P1.1_36 Start: 24727, Stop: 23759, Start Num: 8
Candidate Starts for P1.1_36:
(Start: 8 @24727 has 1 MA's), (Start: 10 @24706 has 40 MA's), (16, 24385), (17, 24340), (23, 24112), (25, 24088), (28, 24052), (30, 23944), (31, 23929),

Gene: P100.1_36 Start: 24750, Stop: 23803, Start Num: 10
Candidate Starts for P100.1_36:
(Start: 8 @24777 has 1 MA's), (Start: 10 @24750 has 40 MA's), (15, 24441), (16, 24429), (17, 24384), (19, 24363), (23, 24156), (25, 24132), (26, 24108), (28, 24096), (30, 23988), (31, 23973),

Gene: P100A_36 Start: 24688, Stop: 23744, Start Num: 10
Candidate Starts for P100A_36:
(1, 24979), (3, 24871), (Start: 8 @24709 has 1 MA's), (Start: 10 @24688 has 40 MA's), (12, 24472), (16, 24367), (17, 24322), (18, 24319), (23, 24094), (25, 24070), (26, 24046), (28, 24034), (30, 23926), (31, 23911),

Gene: P100D_36 Start: 24667, Stop: 23720, Start Num: 10
Candidate Starts for P100D_36:
(Start: 8 @24688 has 1 MA's), (Start: 10 @24667 has 40 MA's), (14, 24382), (16, 24346), (17, 24301), (19, 24280), (23, 24073), (25, 24049), (26, 24025), (28, 24013), (30, 23905), (31, 23890),

Gene: P101A_36 Start: 24699, Stop: 23752, Start Num: 10
Candidate Starts for P101A_36:
(2, 24885), (4, 24843), (Start: 8 @24720 has 1 MA's), (Start: 10 @24699 has 40 MA's), (14, 24414), (17, 24333), (23, 24105), (25, 24081), (26, 24057), (28, 24045), (30, 23937), (31, 23922),

Gene: P104A_36 Start: 24461, Stop: 23520, Start Num: 10
Candidate Starts for P104A_36:
(4, 24605), (6, 24539), (Start: 8 @24482 has 1 MA's), (Start: 10 @24461 has 40 MA's), (15, 24152), (16, 24140), (17, 24095), (19, 24074), (22, 23903), (23, 23867), (25, 23843), (26, 23819), (28, 23807), (30, 23699), (31, 23684),

Gene: P104B_36 Start: 24668, Stop: 23721, Start Num: 10

Candidate Starts for P104B_36:
(2, 24854), (4, 24812), (Start: 8 @24689 has 1 MA's), (Start: 10 @24668 has 40 MA's), (16, 24347), (17, 24302), (19, 24281), (23, 24074), (25, 24050), (26, 24026), (28, 24014), (30, 23906), (31, 23891),

Gene: P105_36 Start: 24343, Stop: 23396, Start Num: 10
Candidate Starts for P105_36:
(Start: 10 @24343 has 40 MA's), (15, 24034), (16, 24022), (17, 23977), (19, 23956), (23, 23749), (25, 23725), (26, 23701), (28, 23689), (30, 23581), (31, 23566),

Gene: P106A_36 Start: 24767, Stop: 23820, Start Num: 10
Candidate Starts for P106A_36:
(Start: 8 @24794 has 1 MA's), (Start: 10 @24767 has 40 MA's), (15, 24458), (16, 24446), (17, 24401), (19, 24380), (23, 24173), (25, 24149), (26, 24125), (28, 24113), (30, 24005), (31, 23990),

Gene: P106C_37 Start: 24683, Stop: 23736, Start Num: 10
Candidate Starts for P106C_37:
(Start: 8 @24710 has 1 MA's), (Start: 10 @24683 has 40 MA's), (15, 24374), (16, 24362), (17, 24317), (19, 24296), (23, 24089), (25, 24065), (26, 24041), (28, 24029), (30, 23921), (31, 23906),

Gene: P106I_36 Start: 24512, Stop: 23565, Start Num: 10
Candidate Starts for P106I_36:
(Start: 8 @24539 has 1 MA's), (Start: 10 @24512 has 40 MA's), (15, 24203), (16, 24191), (17, 24146), (19, 24125), (23, 23918), (25, 23894), (26, 23870), (28, 23858), (30, 23750), (31, 23735),

Gene: P106L_36 Start: 24683, Stop: 23736, Start Num: 10
Candidate Starts for P106L_36:
(Start: 8 @24710 has 1 MA's), (Start: 10 @24683 has 40 MA's), (15, 24374), (16, 24362), (17, 24317), (19, 24296), (23, 24089), (25, 24065), (26, 24041), (28, 24029), (30, 23921), (31, 23906),

Gene: P106M_36 Start: 24683, Stop: 23736, Start Num: 10
Candidate Starts for P106M_36:
(Start: 8 @24710 has 1 MA's), (Start: 10 @24683 has 40 MA's), (15, 24374), (16, 24362), (17, 24317), (19, 24296), (23, 24089), (25, 24065), (26, 24041), (28, 24029), (30, 23921), (31, 23906),

Gene: P107A_36 Start: 24707, Stop: 23766, Start Num: 10
Candidate Starts for P107A_36:
(Start: 8 @24728 has 1 MA's), (Start: 10 @24707 has 40 MA's), (15, 24398), (16, 24386), (17, 24341), (21, 24224), (23, 24113), (25, 24089), (26, 24065), (28, 24053), (30, 23945), (31, 23930), (32, 23903),

Gene: P107C_36 Start: 24634, Stop: 23693, Start Num: 9
Candidate Starts for P107C_36:
(Start: 9 @24634 has 4 MA's), (15, 24325), (16, 24313), (17, 24268), (20, 24193), (23, 24040), (24, 24034), (25, 24016), (26, 23992), (28, 23980), (30, 23872), (31, 23857), (33, 23812),

Gene: P108C_36 Start: 24664, Stop: 23717, Start Num: 10
Candidate Starts for P108C_36:
(2, 24850), (5, 24748), (Start: 8 @24685 has 1 MA's), (Start: 10 @24664 has 40 MA's), (16, 24343), (17, 24298), (19, 24277), (23, 24070), (25, 24046), (26, 24022), (28, 24010), (30, 23902), (31, 23887),

Gene: P14.4_36 Start: 24676, Stop: 23729, Start Num: 10
Candidate Starts for P14.4_36:
(4, 24820), (Start: 8 @24697 has 1 MA's), (Start: 10 @24676 has 40 MA's), (16, 24355), (17, 24310), (19, 24289), (23, 24082), (25, 24058), (28, 24022), (30, 23914), (31, 23899),

Gene: P9.1_36 Start: 24701, Stop: 23754, Start Num: 10
Candidate Starts for P9.1_36:
(5, 24791), (Start: 8 @24728 has 1 MA's), (Start: 10 @24701 has 40 MA's), (15, 24392), (16, 24380), (17, 24335), (18, 24332), (19, 24314), (22, 24143), (23, 24107), (25, 24083), (28, 24047), (30, 23939), (31, 23924),

Gene: PA6_37 Start: 24666, Stop: 23719, Start Num: 10
Candidate Starts for PA6_37:
(2, 24858), (4, 24816), (Start: 8 @24693 has 1 MA's), (Start: 10 @24666 has 40 MA's), (16, 24345), (17, 24300), (18, 24297), (19, 24279), (22, 24108), (23, 24072), (25, 24048), (26, 24024), (28, 24012), (30, 23904), (31, 23889),

Gene: PAD20_37 Start: 24432, Stop: 23503, Start Num: 10
Candidate Starts for PAD20_37:
(4, 24576), (Start: 8 @24453 has 1 MA's), (Start: 10 @24432 has 40 MA's), (16, 24111), (17, 24066), (18, 24063), (19, 24045), (23, 23838), (25, 23814), (28, 23778), (30, 23670), (31, 23655),

Gene: PAS50_37 Start: 24680, Stop: 23649, Start Num: 10
Candidate Starts for PAS50_37:
(Start: 10 @24680 has 40 MA's), (16, 24359), (17, 24314), (18, 24311), (19, 24293), (22, 24122), (23, 24086), (25, 24062), (26, 24038), (28, 24026), (30, 23918), (31, 23903),

Gene: PHL010M04_36 Start: 24666, Stop: 23728, Start Num: 9
Candidate Starts for PHL010M04_36:
(Start: 9 @24666 has 4 MA's), (13, 24420), (15, 24357), (16, 24345), (23, 24072), (24, 24066), (25, 24048), (26, 24024), (28, 24012), (30, 23904), (31, 23889),

Gene: PHL037M02_36 Start: 24666, Stop: 23719, Start Num: 10
Candidate Starts for PHL037M02_36:
(Start: 8 @24687 has 1 MA's), (Start: 10 @24666 has 40 MA's), (15, 24357), (16, 24345), (17, 24300), (23, 24072), (24, 24066), (25, 24048), (26, 24024), (28, 24012), (30, 23904), (31, 23889),

Gene: PHL060L00_36 Start: 24512, Stop: 23571, Start Num: 10
Candidate Starts for PHL060L00_36:
(Start: 8 @24533 has 1 MA's), (Start: 10 @24512 has 40 MA's), (15, 24203), (16, 24191), (17, 24146), (19, 24125), (23, 23918), (24, 23912), (25, 23894), (26, 23870), (30, 23750), (31, 23735),

Gene: PHL067M10_36 Start: 24630, Stop: 23683, Start Num: 10
Candidate Starts for PHL067M10_36:
(Start: 10 @24630 has 40 MA's), (16, 24309), (17, 24264), (19, 24243), (22, 24072), (23, 24036), (25, 24012), (26, 23988), (28, 23976), (30, 23868), (31, 23853),

Gene: PHL071N05_36 Start: 24696, Stop: 23749, Start Num: 10
Candidate Starts for PHL071N05_36:
(2, 24882), (4, 24840), (Start: 8 @24717 has 1 MA's), (Start: 10 @24696 has 40 MA's), (16, 24375), (17, 24330), (19, 24309), (23, 24102), (25, 24078), (28, 24042), (30, 23934), (31, 23919),

Gene: PHL111M01_36 Start: 24390, Stop: 23449, Start Num: 10
Candidate Starts for PHL111M01_36:
(Start: 8 @24417 has 1 MA's), (Start: 10 @24390 has 40 MA's), (15, 24081), (16, 24069), (17, 24024), (19, 24003), (23, 23796), (25, 23772), (26, 23748), (28, 23736), (30, 23628), (31, 23613),

Gene: PHL112N00_36 Start: 24689, Stop: 23748, Start Num: 9
Candidate Starts for PHL112N00_36:
(Start: 9 @24689 has 4 MA's), (15, 24380), (16, 24368), (17, 24323), (20, 24248), (23, 24095), (24, 24089), (25, 24071), (26, 24047), (28, 24035), (30, 23927), (31, 23912), (33, 23867),

Gene: PHL113M01_36 Start: 24437, Stop: 23496, Start Num: 10
Candidate Starts for PHL113M01_36:
(1, 24728), (2, 24623), (4, 24581), (Start: 8 @24458 has 1 MA's), (Start: 10 @24437 has 40 MA's), (15, 24128), (16, 24116), (17, 24071), (19, 24050), (22, 23879), (23, 23843), (25, 23819), (26, 23795), (28, 23783), (30, 23675), (31, 23660),

Gene: PHL114L00_36 Start: 24626, Stop: 23688, Start Num: 10
Candidate Starts for PHL114L00_36:
(Start: 10 @24626 has 40 MA's), (15, 24317), (16, 24305), (17, 24260), (23, 24032), (24, 24026), (25, 24008), (26, 23984), (28, 23972), (30, 23864), (31, 23849),

Gene: Pirate_36 Start: 24592, Stop: 23645, Start Num: 10
Candidate Starts for Pirate_36:
(2, 24778), (5, 24676), (Start: 8 @24613 has 1 MA's), (Start: 10 @24592 has 40 MA's), (16, 24271), (17, 24226), (19, 24205), (23, 23998), (25, 23974), (26, 23950), (28, 23938), (30, 23830), (31, 23815), (34, 23752),

Gene: Procrass1_36 Start: 24619, Stop: 23876, Start Num: 10
Candidate Starts for Procrass1_36:
(4, 24763), (Start: 8 @24640 has 1 MA's), (Start: 10 @24619 has 40 MA's), (16, 24298), (17, 24253), (19, 24232), (23, 24025), (25, 24001), (28, 23965), (29, 23905),

Gene: QueenBey_36 Start: 24644, Stop: 23697, Start Num: 10
Candidate Starts for QueenBey_36:
(2, 24830), (4, 24788), (5, 24728), (Start: 8 @24665 has 1 MA's), (Start: 10 @24644 has 40 MA's), (15, 24335), (16, 24323), (17, 24278), (23, 24050), (25, 24026), (28, 23990), (30, 23882), (31, 23867),

Gene: Rileysaurus_35 Start: 24688, Stop: 23750, Start Num: 10
Candidate Starts for Rileysaurus_35:
(2, 24874), (5, 24772), (Start: 8 @24709 has 1 MA's), (Start: 10 @24688 has 40 MA's), (15, 24379), (16, 24367), (17, 24322), (18, 24319), (23, 24094), (25, 24070), (26, 24046), (28, 24034), (30, 23926), (31, 23911), (32, 23884),

Gene: SKKY_36 Start: 24424, Stop: 23477, Start Num: 10
Candidate Starts for SKKY_36:
(1, 24715), (2, 24610), (4, 24568), (Start: 8 @24445 has 1 MA's), (Start: 10 @24424 has 40 MA's), (16, 24103), (17, 24058), (23, 23830), (25, 23806), (26, 23782), (28, 23770), (30, 23662), (31, 23647),

Gene: Solid_36 Start: 24667, Stop: 23720, Start Num: 10
Candidate Starts for Solid_36:
(1, 24958), (2, 24853), (Start: 8 @24688 has 1 MA's), (Start: 10 @24667 has 40 MA's), (16, 24346), (17, 24301), (23, 24073), (25, 24049), (26, 24025), (28, 24013), (30, 23905), (31, 23890),

Gene: Stormborn_36 Start: 24280, Stop: 23339, Start Num: 10
Candidate Starts for Stormborn_36:
(Start: 10 @24280 has 40 MA's), (11, 24106), (16, 23959), (17, 23914), (19, 23893), (23, 23686), (25, 23662), (28, 23626), (30, 23518), (31, 23503),

Gene: Supernova_36 Start: 24419, Stop: 23478, Start Num: 10
Candidate Starts for Supernova_36:
(2, 24605), (4, 24563), (Start: 8 @24440 has 1 MA's), (Start: 10 @24419 has 40 MA's), (16, 24098), (17, 24053), (19, 24032), (22, 23861), (23, 23825), (25, 23801), (26, 23777), (28, 23765), (30, 23657), (31, 23642),

Gene: Wizzo_36 Start: 24146, Stop: 23205, Start Num: 10
Candidate Starts for Wizzo_36:
(1, 24443), (2, 24338), (4, 24296), (Start: 8 @24173 has 1 MA's), (Start: 10 @24146 has 40 MA's), (16, 23825), (17, 23780), (23, 23552), (25, 23528), (26, 23504), (28, 23492), (30, 23384), (31, 23369),