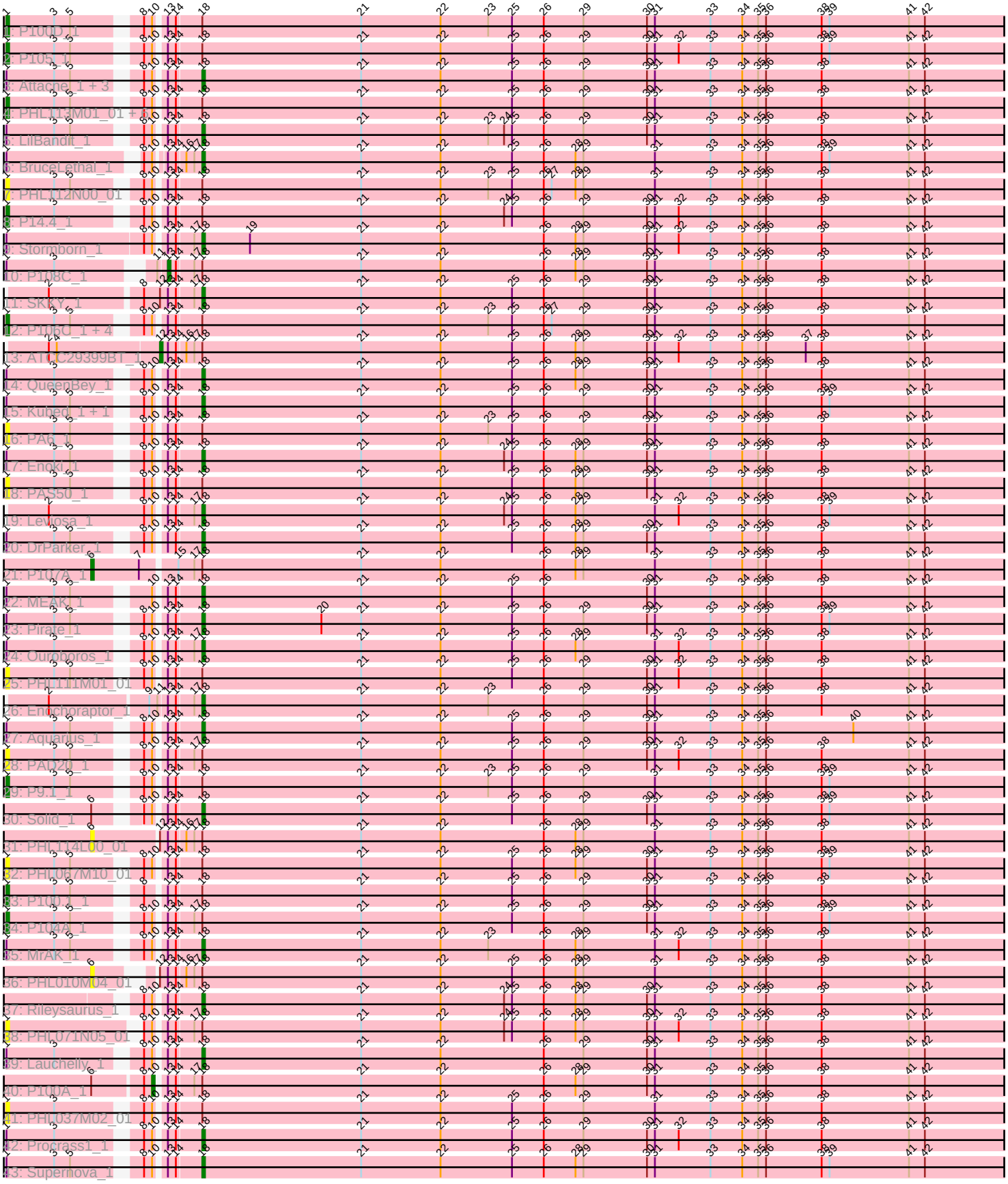
Pham 287934


1: P100D_1
2: P105_1
3: Attacne_1 + 3
4: PHL113M01_01 + 1
5: LilBandit_1
6: BruceLethal_1
7: PHL112N00_01
8: P14.4_1
9: Stormborn_1
10: P108C_1
11: SKKY_1
12: P105D_1 + 4
13: ATCC29399BT_1
14: QueenBey_1
15: Kuhedi_1 + 1
16: PA6_1
17: Enoki_1
18: PAS50_1
19: Levinosa_1
20: DrParker_1
21: P107A_1
22: MEAK_1
23: Pirate_1
24: Ouroboros_1
25: PHL111M01_01
26: Entrochoraptor_1
27: Aquarius_1
28: PAD20_1
29: P9.1_1
30: Solid_1
31: PHL114L00_01
32: PHL067M10_01
33: P100A_1
34: P104A_1
35: MrAK_1
36: PHL010M04_01
37: Rileysaurus_1
38: PHL071N05_01
39: Lauchelly_1
40: P100A_1
41: PHL037M02_01
42: Prograss1_1
43: Supernova_1

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 287934 Report

This analysis was run 03/28/26 on database version 641.

Pham number 287934 has 57 members, 12 are drafts.

Phages represented in each track:
- Track 1 : P100D_1
- Track 2 : P105_1
- Track 3 : Attacne_1, Wizzo_1, Cota_1, Keiki_1
- Track 4 : PHL113M01_01, P107C_1, P1.1_1, ATCC29399BC_1, P101A_1, P104B_1, PHL060L00_01
- Track 5 : LilBandit_1
- Track 6 : BruceLethal_1
- Track 7 : PHL112N00_01
- Track 8 : P14.4_1
- Track 9 : Stormborn_1
- Track 10 : P108C_1
- Track 11 : SKKY_1
- Track 12 : P106C_1, P106I_1, P106L_1, P106A_1, P106M_1
- Track 13 : ATCC29399BT_1
- Track 14 : QueenBey_1
- Track 15 : Kubed_1, Moyashi_1
- Track 16 : PA6_1
- Track 17 : Enoki_1
- Track 18 : PAS50_1
- Track 19 : Leviosa_1
- Track 20 : DrParker_1
- Track 21 : P107A_1
- Track 22 : MEAK_1
- Track 23 : Pirate_1
- Track 24 : Ouroboros_1
- Track 25 : PHL111M01_01
- Track 26 : Enochoraptor_1
- Track 27 : Aquarius_1
- Track 28 : PAD20_1
- Track 29 : P9.1_1
- Track 30 : Solid_1
- Track 31 : PHL114L00_01
- Track 32 : PHL067M10_01
- Track 33 : P100.1_1
- Track 34 : P104A_1
- Track 35 : MrAK_1
- Track 36 : PHL010M04_01

• Track 37 : Rileysaurus_1
• Track 38 : PHL071N05_01
• Track 39 : Lauchelly_1
• Track 40 : P100A_1
• Track 41 : PHL037M02_01
• Track 42 : Procrass1_1
• Track 43 : Supernova_1

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

The start number called the most often in the published annotations is 18, it was called in 25 of the 45 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aquarius_1, Attacne_1, BruceLethal_1, Cota_1, DrParker_1, Enochoraptor_1, Enoki_1, Keiki_1, Kubed_1, Lauchelly_1, Leviosa_1, LilBandit_1, MEAK_1, Moyashi_1, MrAK_1, Ouroboros_1, Pirate_1, Procrass1_1, QueenBey_1, Rileysaurus_1, SKKY_1, Solid_1, Stormborn_1, Supernova_1, Wizzo_1,

Genes that have the "Most Annotated" start but do not call it:
• ATCC29399BC_1, ATCC29399BT_1, P1.1_1, P100.1_1, P100A_1, P100D_1, P101A_1, P104A_1, P104B_1, P105_1, P106A_1, P106C_1, P106I_1, P106L_1, P106M_1, P107A_1, P107C_1, P108C_1, P14.4_1, P9.1_1, PA6_1, PAD20_1, PAS50_1, PHL010M04_01, PHL037M02_01, PHL060L00_01, PHL067M10_01, PHL071N05_01, PHL111M01_01, PHL112N00_01, PHL113M01_01, PHL114L00_01,

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

Summary by start number:

Start 1:
• Found in 47 of 57 (82.5%) of genes in pham
• Manual Annotations of this start: 16 of 45
• Called 55.3% of time when present
• Phage (with cluster) where this start called: ATCC29399BC_1 (BU), P1.1_1 (BU), P100.1_1 (BU), P100D_1 (BU), P101A_1 (BU), P104A_1 (BU), P104B_1 (BU), P105_1 (BU), P106A_1 (BU), P106C_1 (BU), P106I_1 (BU), P106L_1 (BU), P106M_1 (BU), P107C_1 (BU), P14.4_1 (BU), P9.1_1 (BU), PA6_1 (BU), PAD20_1 (BU), PAS50_1 (BU), PHL037M02_01 (BU), PHL060L00_01 (BU), PHL067M10_01 (BU), PHL071N05_01 (BU), PHL111M01_01 (BU), PHL112N00_01 (BU), PHL113M01_01 (BU),

Start 6:
• Found in 5 of 57 (8.8%) of genes in pham
• Manual Annotations of this start: 1 of 45
• Called 60.0% of time when present
• Phage (with cluster) where this start called: P107A_1 (BU), PHL010M04_01 (BU), PHL114L00_01 (BU),

Start 10:
• Found in 49 of 57 (86.0%) of genes in pham
• Manual Annotations of this start: 1 of 45
• Called 2.0% of time when present
• Phage (with cluster) where this start called: P100A_1 (BU),

Start 12:
• Found in 4 of 57 (7.0%) of genes in pham
• Manual Annotations of this start: 1 of 45
• Called 25.0% of time when present
• Phage (with cluster) where this start called: ATCC29399BT_1 (BU),

Start 13:
• Found in 56 of 57 (98.2%) of genes in pham
• Manual Annotations of this start: 1 of 45
• Called 1.8% of time when present
• Phage (with cluster) where this start called: P108C_1 (BU),

Start 18:
• Found in 57 of 57 (100.0%) of genes in pham
• Manual Annotations of this start: 25 of 45
• Called 43.9% of time when present
• Phage (with cluster) where this start called: Aquarius_1 (BU), Attacne_1 (BU), BruceLethal_1 (BU), Cota_1 (BU), DrParker_1 (BU), Enochoraptor_1 (BU), Enoki_1 (BU), Keiki_1 (BU), Kubed_1 (BU), Lauchelly_1 (BU), Leviosa_1 (BU), LilBandit_1 (BU), MEAK_1 (BU), Moyashi_1 (BU), MrAK_1 (BU), Ouroboros_1 (BU), Pirate_1 (BU), Procrass1_1 (BU), QueenBey_1 (BU), Rileysaurus_1 (BU), SKKY_1 (BU), Solid_1 (BU), Stormborn_1 (BU), Supernova_1 (BU), Wizzo_1 (BU),

Summary by clusters:

There is one cluster represented in this pham: BU

Info for manual annotations of cluster BU:
•Start number 1 was manually annotated 16 times for cluster BU.
•Start number 6 was manually annotated 1 time for cluster BU.
•Start number 10 was manually annotated 1 time for cluster BU.
•Start number 12 was manually annotated 1 time for cluster BU.
•Start number 13 was manually annotated 1 time for cluster BU.
•Start number 18 was manually annotated 25 times for cluster BU.

Gene Information:

Gene: ATCC29399BC_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for ATCC29399BC_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: ATCC29399BT_1 Start: 57, Stop: 380, Start Num: 12

Candidate Starts for ATCC29399BT_1:
(2, 18), (4, 21), (Start: 12 @57 has 1 MA's), (Start: 13 @60 has 1 MA's), (14, 63), (16, 66), (17, 69), (Start: 18 @72 has 25 MA's), (21, 132), (22, 162), (25, 189), (26, 201), (28, 213), (29, 216), (30, 240), (31, 243), (32, 252), (33, 264), (34, 276), (35, 282), (36, 285), (37, 300), (38, 306), (41, 339), (42, 345),

Gene: Aquarius_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for Aquarius_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (40, 311), (41, 332), (42, 338),

Gene: Attacne_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for Attacne_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: BruceLethal_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for BruceLethal_1:
(Start: 1 @2 has 16 MA's), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (16, 59), (17, 62), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (28, 206), (29, 209), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (39, 302), (41, 332), (42, 338),

Gene: Cota_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for Cota_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: DrParker_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for DrParker_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (28, 206), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: Enochoraptor_1 Start: 72, Stop: 380, Start Num: 18
Candidate Starts for Enochoraptor_1:
(2, 18), (9, 54), (11, 57), (Start: 13 @60 has 1 MA's), (14, 63), (17, 69), (Start: 18 @72 has 25 MA's), (21, 132), (22, 162), (23, 180), (26, 201), (29, 216), (30, 240), (31, 243), (33, 264), (34, 276), (35, 282), (36, 285), (38, 306), (41, 339), (42, 345),

Gene: Enoki_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for Enoki_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (24, 179), (25, 182), (26, 194), (28, 206), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: Keiki_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for Keiki_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: Kubed_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for Kubed_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (39, 302), (41, 332), (42, 338),

Gene: Lauchelly_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for Lauchelly_1:
(Start: 1 @2 has 16 MA's), (3, 20), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: Leviosa_1 Start: 72, Stop: 380, Start Num: 18
Candidate Starts for Leviosa_1:
(2, 18), (8, 54), (Start: 10 @57 has 1 MA's), (Start: 13 @60 has 1 MA's), (14, 63), (17, 69), (Start: 18 @72 has 25 MA's), (21, 132), (22, 162), (24, 186), (25, 189), (26, 201), (28, 213), (29, 216), (31, 243), (32, 252), (33, 264), (34, 276), (35, 282), (36, 285), (38, 306), (39, 309), (41, 339), (42, 345),

Gene: LilBandit_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for LilBandit_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (23, 173), (24, 179), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: MEAK_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for MEAK_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: Moyashi_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for Moyashi_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (39, 302), (41, 332), (42, 338),

Gene: MrAK_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for MrAK_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (23, 173), (26, 194), (28, 206), (29, 209), (31, 236), (32, 245), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: Ouroboros_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for Ouroboros_1:
(Start: 1 @2 has 16 MA's), (3, 20), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (17, 62), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (28, 206), (29, 209), (31, 236), (32, 245), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: P1.1_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P1.1_1:

(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: P100.1_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P100.1_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: P100A_1 Start: 55, Stop: 378, Start Num: 10
Candidate Starts for P100A_1:
(Start: 6 @34 has 1 MA's), (8, 52), (Start: 10 @55 has 1 MA's), (Start: 13 @58 has 1 MA's), (14, 61), (17, 67), (Start: 18 @70 has 25 MA's), (21, 130), (22, 160), (26, 199), (28, 211), (29, 214), (30, 238), (31, 241), (33, 262), (34, 274), (35, 280), (36, 283), (38, 304), (41, 337), (42, 343),

Gene: P100D_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P100D_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (23, 173), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (39, 302), (41, 332), (42, 338),

Gene: P101A_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P101A_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: P104A_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P104A_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (17, 62), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (39, 302), (41, 332), (42, 338),

Gene: P104B_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P104B_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: P105_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P105_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (32, 245), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (39, 302), (41, 332), (42, 338),

Gene: P106A_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P106A_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (23, 173), (25, 182), (26, 194), (27,

197), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: P106C_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P106C_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (23, 173), (25, 182), (26, 194), (27, 197), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: P106I_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P106I_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (23, 173), (25, 182), (26, 194), (27, 197), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: P106L_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P106L_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (23, 173), (25, 182), (26, 194), (27, 197), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: P106M_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P106M_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (23, 173), (25, 182), (26, 194), (27, 197), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: P107A_1 Start: 34, Stop: 381, Start Num: 6
Candidate Starts for P107A_1:
(Start: 6 @34 has 1 MA's), (7, 52), (15, 64), (17, 70), (Start: 18 @73 has 25 MA's), (21, 133), (22, 163), (26, 202), (28, 214), (29, 217), (31, 244), (33, 265), (34, 277), (35, 283), (36, 286), (38, 307), (41, 340), (42, 346),

Gene: P107C_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P107C_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: P108C_1 Start: 53, Stop: 373, Start Num: 13
Candidate Starts for P108C_1:
(Start: 1 @2 has 16 MA's), (3, 20), (11, 50), (Start: 13 @53 has 1 MA's), (14, 56), (17, 62), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (26, 194), (28, 206), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: P14.4_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P14.4_1:
(Start: 1 @2 has 16 MA's), (3, 20), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (24, 179), (25, 182), (26, 194), (29, 209), (30,

233), (31, 236), (32, 245), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: P9.1_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for P9.1_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (23, 173), (25, 182), (26, 194), (29, 209), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (39, 302), (41, 332), (42, 338),

Gene: PA6_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for PA6_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (23, 173), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: PAD20_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for PAD20_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (17, 62), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (32, 245), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: PAS50_1 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for PAS50_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (28, 206), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: PHL010M04_01 Start: 34, Stop: 372, Start Num: 6
Candidate Starts for PHL010M04_01:
(Start: 6 @34 has 1 MA's), (Start: 12 @49 has 1 MA's), (Start: 13 @52 has 1 MA's), (14, 55), (16, 58), (17, 61), (Start: 18 @64 has 25 MA's), (21, 124), (22, 154), (25, 181), (26, 193), (28, 205), (29, 208), (31, 235), (33, 256), (34, 268), (35, 274), (36, 277), (38, 298), (41, 331), (42, 337),

Gene: PHL037M02_01 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for PHL037M02_01:
(Start: 1 @2 has 16 MA's), (3, 20), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: PHL060L00_01 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for PHL060L00_01:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: PHL067M10_01 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for PHL067M10_01:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (28, 206), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (39, 302), (41, 332), (42, 338),

Gene: PHL071N05_01 Start: 2, Stop: 373, Start Num: 1

Candidate Starts for PHL071N05_01:
(Start: 1 @2 has 16 MA's), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (17, 62), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (24, 179), (25, 182), (26, 194), (28, 206), (29, 209), (30, 233), (31, 236), (32, 245), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: PHL111M01_01 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for PHL111M01_01:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (32, 245), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: PHL112N00_01 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for PHL112N00_01:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (23, 173), (25, 182), (26, 194), (27, 197), (28, 206), (29, 209), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: PHL113M01_01 Start: 2, Stop: 373, Start Num: 1
Candidate Starts for PHL113M01_01:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: PHL114L00_01 Start: 34, Stop: 381, Start Num: 6
Candidate Starts for PHL114L00_01:
(Start: 6 @34 has 1 MA's), (Start: 12 @58 has 1 MA's), (Start: 13 @61 has 1 MA's), (14, 64), (16, 67), (17, 70), (Start: 18 @73 has 25 MA's), (21, 133), (22, 163), (26, 202), (28, 214), (29, 217), (31, 244), (33, 265), (34, 277), (35, 283), (36, 286), (38, 307), (41, 340), (42, 346),

Gene: Pirate_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for Pirate_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (20, 110), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (39, 302), (41, 332), (42, 338),

Gene: Procrass1_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for Procrass1_1:
(Start: 1 @2 has 16 MA's), (3, 20), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (32, 245), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: QueenBey_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for QueenBey_1:
(Start: 1 @2 has 16 MA's), (3, 20), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (28, 206), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),

Gene: Rileysaurus_1 Start: 64, Stop: 372, Start Num: 18
Candidate Starts for Rileysaurus_1:

(8, 46), (Start: 10 @49 has 1 MA's), (Start: 13 @52 has 1 MA's), (14, 55), (Start: 18 @64 has 25 MA's), (21, 124), (22, 154), (24, 178), (25, 181), (26, 193), (28, 205), (29, 208), (30, 232), (31, 235), (33, 256), (34, 268), (35, 274), (36, 277), (38, 298), (41, 331), (42, 337),

Gene: SKKY_1 Start: 72, Stop: 380, Start Num: 18
Candidate Starts for SKKY_1:
(2, 18), (8, 51), (Start: 12 @57 has 1 MA's), (Start: 13 @60 has 1 MA's), (14, 63), (17, 69), (Start: 18 @72 has 25 MA's), (21, 132), (22, 162), (25, 189), (26, 201), (29, 216), (30, 240), (31, 243), (33, 264), (34, 276), (35, 282), (36, 285), (38, 306), (41, 339), (42, 345),

Gene: Solid_1 Start: 64, Stop: 372, Start Num: 18
Candidate Starts for Solid_1:
(Start: 6 @34 has 1 MA's), (8, 46), (Start: 10 @49 has 1 MA's), (Start: 13 @52 has 1 MA's), (14, 55), (Start: 18 @64 has 25 MA's), (21, 124), (22, 154), (25, 181), (26, 193), (29, 208), (30, 232), (31, 235), (33, 256), (34, 268), (35, 274), (36, 277), (38, 298), (39, 301), (41, 331), (42, 337),

Gene: Stormborn_1 Start: 71, Stop: 379, Start Num: 18
Candidate Starts for Stormborn_1:
(Start: 1 @2 has 16 MA's), (8, 53), (Start: 10 @56 has 1 MA's), (Start: 13 @59 has 1 MA's), (14, 62), (17, 68), (Start: 18 @71 has 25 MA's), (19, 89), (21, 131), (22, 161), (26, 200), (28, 212), (29, 215), (30, 239), (31, 242), (32, 251), (33, 263), (34, 275), (35, 281), (36, 284), (38, 305), (41, 338), (42, 344),

Gene: Supernova_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for Supernova_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (28, 206), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (39, 302), (41, 332), (42, 338),

Gene: Wizzo_1 Start: 65, Stop: 373, Start Num: 18
Candidate Starts for Wizzo_1:
(Start: 1 @2 has 16 MA's), (3, 20), (5, 26), (8, 47), (Start: 10 @50 has 1 MA's), (Start: 13 @53 has 1 MA's), (14, 56), (Start: 18 @65 has 25 MA's), (21, 125), (22, 155), (25, 182), (26, 194), (29, 209), (30, 233), (31, 236), (33, 257), (34, 269), (35, 275), (36, 278), (38, 299), (41, 332), (42, 338),