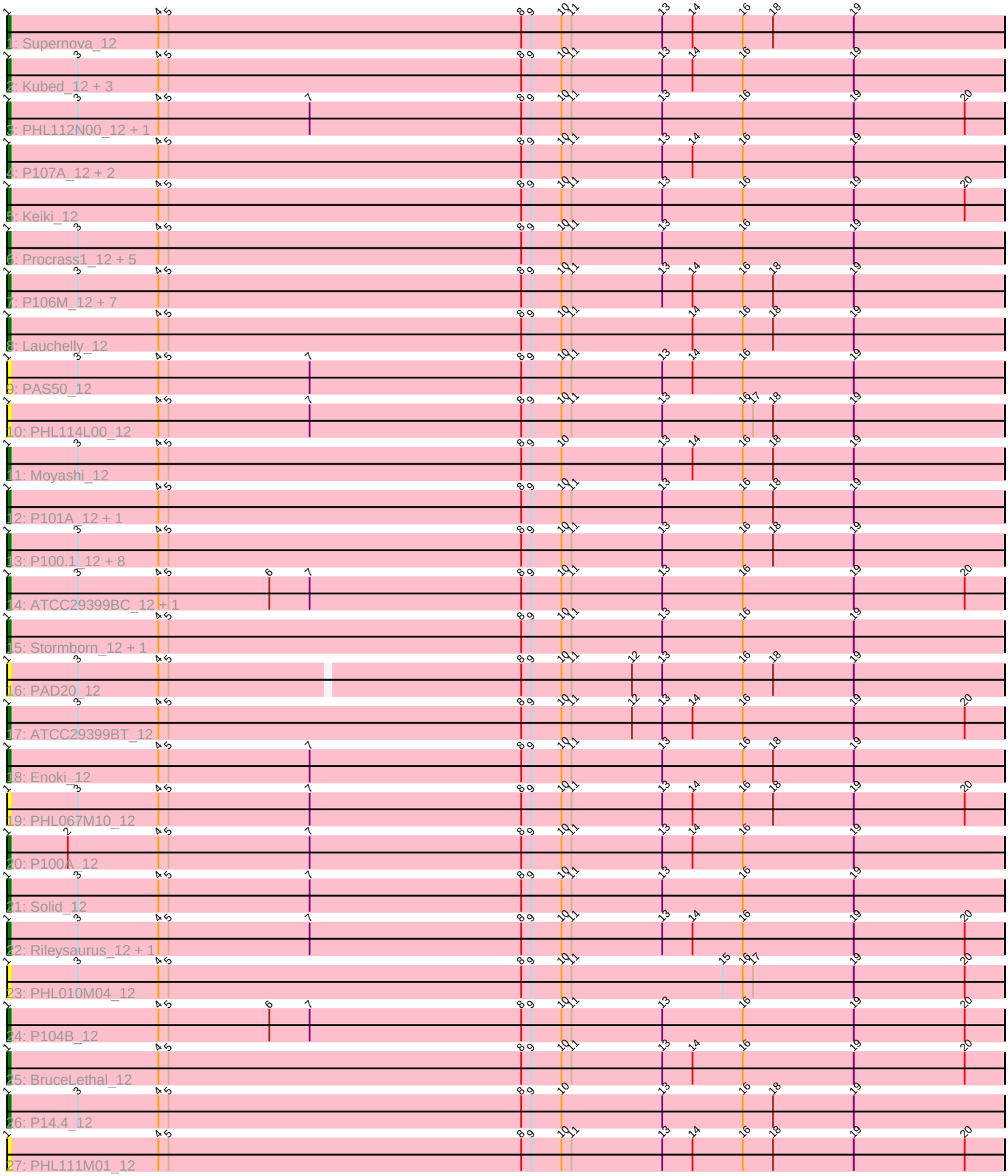
Pham 1593


1: Supernova_12
2: Kubed_12 + 3
3: PHL112N00_12 + 1
4: P107A_12 + 2
5: Keiki_12
6: Procrass1_12 + 5
7: P106M_12 + 7
8: Lauchelly_12
9: PAS50_12
10: PHL114L00_12
11: Moyashi_12
12: P101A_12 + 1
13: P100.1_12 + 8
14: ATCC29399BC_12 + 1
15: Stormborn_12 + 1
16: PAD20_12
17: ATCC29399BT_12
18: Enoki_12
19: PHL067M10_12
20: P100A_12
21: Solid_12
22: Rileysaurus_12 + 1
23: PHL010M04_12
24: P104B_12
25: BruceLethal_12
26: P14.4_12
27: PHL111M01_12

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 1593 Report

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

Pham number 1593 has 57 members, 14 are drafts.

Phages represented in each track:
• Track 1 : Supernova_12
• Track 2 : Kubed_12, P100D_12, P104A_12, Leviosa_12
• Track 3 : PHL112N00_12, Wizzo_12
• Track 4 : P107A_12, Ouroboros_12, QueenBey_12
• Track 5 : Keiki_12
• Track 6 : Procrass1_12, Attacne_12, LilBandit_12, PHL113M01_12, Enochoraptor_12, Pirate_12
• Track 7 : P106M_12, P106L_12, SKKY_12, P106C_12, PHL037M02_12, P106A_12, MrAK_12, P106I_12
• Track 8 : Lauchelly_12
• Track 9 : PAS50_12
• Track 10 : PHL114L00_12
• Track 11 : Moyashi_12
• Track 12 : P101A_12, PHL071N05_12
• Track 13 : P100.1_12, P1.1_12, P108C_12, PA6_12, MEAK_12, P105_12, P9.1_12, PHL060L00_12, DrParker_12
• Track 14 : ATCC29399BC_12, P107C_12
• Track 15 : Stormborn_12, Cota_12
• Track 16 : PAD20_12
• Track 17 : ATCC29399BT_12
• Track 18 : Enoki_12
• Track 19 : PHL067M10_12
• Track 20 : P100A_12
• Track 21 : Solid_12
• Track 22 : Rileysaurus_12, Aquarius_12
• Track 23 : PHL010M04_12
• Track 24 : P104B_12
• Track 25 : BruceLethal_12
• Track 26 : P14.4_12
• Track 27 : PHL111M01_12

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

The start number called the most often in the published annotations is 1, it was called in 43 of the 43 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• ATCC29399BC_12, ATCC29399BT_12, Aquarius_12, Attacne_12, BruceLethal_12, Cota_12, DrParker_12, Enochoraptor_12, Enoki_12, Keiki_12, Kubed_12, Lauchelly_12, Leviosa_12, LilBandit_12, MEAK_12, Moyashi_12, MrAK_12, Ouroboros_12, P1.1_12, P100.1_12, P100A_12, P100D_12, P101A_12, P104A_12, P104B_12, P105_12, P106A_12, P106C_12, P106I_12, P106L_12, P106M_12, P107A_12, P107C_12, P108C_12, P14.4_12, P9.1_12, PA6_12, PAD20_12, PAS50_12, PHL010M04_12, PHL037M02_12, PHL060L00_12, PHL067M10_12, PHL071N05_12, PHL111M01_12, PHL112N00_12, PHL113M01_12, PHL114L00_12, Pirate_12, Procrass1_12, QueenBey_12, Rileysaurus_12, SKKY_12, Solid_12, Stormborn_12, Supernova_12, Wizzo_12,

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

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

Summary by start number:

Start 1:
• Found in 57 of 57 (100.0%) of genes in pham
• Manual Annotations of this start: 43 of 43
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ATCC29399BC_12 (BU), ATCC29399BT_12 (BU), Aquarius_12 (BU), Attacne_12 (BU), BruceLethal_12 (BU), Cota_12 (BU), DrParker_12 (BU), Enochoraptor_12 (BU), Enoki_12 (BU), Keiki_12 (BU), Kubed_12 (BU), Lauchelly_12 (BU), Leviosa_12 (BU), LilBandit_12 (BU), MEAK_12 (BU), Moyashi_12 (BU), MrAK_12 (BU), Ouroboros_12 (BU), P1.1_12 (BU), P100.1_12 (BU), P100A_12 (BU), P100D_12 (BU), P101A_12 (BU), P104A_12 (BU), P104B_12 (BU), P105_12 (BU), P106A_12 (BU), P106C_12 (BU), P106I_12 (BU), P106L_12 (BU), P106M_12 (BU), P107A_12 (BU), P107C_12 (BU), P108C_12 (BU), P14.4_12 (BU), P9.1_12 (BU), PA6_12 (BU), PAD20_12 (BU), PAS50_12 (BU), PHL010M04_12 (BU), PHL037M02_12 (BU), PHL060L00_12 (BU), PHL067M10_12 (BU), PHL071N05_12 (BU), PHL111M01_12 (BU), PHL112N00_12 (BU), PHL113M01_12 (BU), PHL114L00_12 (BU), Pirate_12 (BU), Procrass1_12 (BU), QueenBey_12 (BU), Rileysaurus_12 (BU), SKKY_12 (BU), Solid_12 (BU), Stormborn_12 (BU), Supernova_12 (BU), Wizzo_12 (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 43 times for cluster BU.

Gene Information:

Gene: ATCC29399BC_12 Start: 7812, Stop: 8108, Start Num: 1
Candidate Starts for ATCC29399BC_12:
(Start: 1 @7812 has 43 MA's), (3, 7833), (4, 7857), (5, 7860), (6, 7890), (7, 7902), (8, 7965), (9, 7968), (10, 7977), (11, 7980), (13, 8007), (16, 8031), (19, 8064), (20, 8097),

Gene: ATCC29399BT_12 Start: 7809, Stop: 8105, Start Num: 1
Candidate Starts for ATCC29399BT_12:
(Start: 1 @7809 has 43 MA's), (3, 7830), (4, 7854), (5, 7857), (8, 7962), (9, 7965), (10, 7974), (11, 7977), (12, 7995), (13, 8004), (14, 8013), (16, 8028), (19, 8061), (20, 8094),

Gene: Aquarius_12 Start: 7829, Stop: 8125, Start Num: 1
Candidate Starts for Aquarius_12:
(Start: 1 @7829 has 43 MA's), (3, 7850), (4, 7874), (5, 7877), (7, 7919), (8, 7982), (9, 7985), (10, 7994), (11, 7997), (13, 8024), (14, 8033), (16, 8048), (19, 8081), (20, 8114),

Gene: Attacne_12 Start: 7815, Stop: 8111, Start Num: 1
Candidate Starts for Attacne_12:
(Start: 1 @7815 has 43 MA's), (3, 7836), (4, 7860), (5, 7863), (8, 7968), (9, 7971), (10, 7980), (11, 7983), (13, 8010), (16, 8034), (19, 8067),

Gene: BruceLethal_12 Start: 7819, Stop: 8115, Start Num: 1
Candidate Starts for BruceLethal_12:
(Start: 1 @7819 has 43 MA's), (4, 7864), (5, 7867), (8, 7972), (9, 7975), (10, 7984), (11, 7987), (13, 8014), (14, 8023), (16, 8038), (19, 8071), (20, 8104),

Gene: Cota_12 Start: 7824, Stop: 8120, Start Num: 1
Candidate Starts for Cota_12:
(Start: 1 @7824 has 43 MA's), (4, 7869), (5, 7872), (8, 7977), (9, 7980), (10, 7989), (11, 7992), (13, 8019), (16, 8043), (19, 8076),

Gene: DrParker_12 Start: 7854, Stop: 8150, Start Num: 1
Candidate Starts for DrParker_12:
(Start: 1 @7854 has 43 MA's), (3, 7875), (4, 7899), (5, 7902), (8, 8007), (9, 8010), (10, 8019), (11, 8022), (13, 8049), (16, 8073), (18, 8082), (19, 8106),

Gene: Enochoraptor_12 Start: 7827, Stop: 8123, Start Num: 1
Candidate Starts for Enochoraptor_12:
(Start: 1 @7827 has 43 MA's), (3, 7848), (4, 7872), (5, 7875), (8, 7980), (9, 7983), (10, 7992), (11, 7995), (13, 8022), (16, 8046), (19, 8079),

Gene: Enoki_12 Start: 7810, Stop: 8106, Start Num: 1
Candidate Starts for Enoki_12:
(Start: 1 @7810 has 43 MA's), (4, 7855), (5, 7858), (7, 7900), (8, 7963), (9, 7966), (10, 7975), (11, 7978), (13, 8005), (16, 8029), (18, 8038), (19, 8062),

Gene: Keiki_12 Start: 7824, Stop: 8120, Start Num: 1
Candidate Starts for Keiki_12:
(Start: 1 @7824 has 43 MA's), (4, 7869), (5, 7872), (8, 7977), (9, 7980), (10, 7989), (11, 7992), (13, 8019), (16, 8043), (19, 8076), (20, 8109),

Gene: Kubed_12 Start: 7819, Stop: 8115, Start Num: 1
Candidate Starts for Kubed_12:

(Start: 1 @7819 has 43 MA's), (3, 7840), (4, 7864), (5, 7867), (8, 7972), (9, 7975), (10, 7984), (11, 7987), (13, 8014), (14, 8023), (16, 8038), (19, 8071),

Gene: Lauchelly_12 Start: 7822, Stop: 8118, Start Num: 1
Candidate Starts for Lauchelly_12:
(Start: 1 @7822 has 43 MA's), (4, 7867), (5, 7870), (8, 7975), (9, 7978), (10, 7987), (11, 7990), (14, 8026), (16, 8041), (18, 8050), (19, 8074),

Gene: Leviosa_12 Start: 7841, Stop: 8137, Start Num: 1
Candidate Starts for Leviosa_12:
(Start: 1 @7841 has 43 MA's), (3, 7862), (4, 7886), (5, 7889), (8, 7994), (9, 7997), (10, 8006), (11, 8009), (13, 8036), (14, 8045), (16, 8060), (19, 8093),

Gene: LilBandit_12 Start: 7825, Stop: 8121, Start Num: 1
Candidate Starts for LilBandit_12:
(Start: 1 @7825 has 43 MA's), (3, 7846), (4, 7870), (5, 7873), (8, 7978), (9, 7981), (10, 7990), (11, 7993), (13, 8020), (16, 8044), (19, 8077),

Gene: MEAK_12 Start: 7811, Stop: 8107, Start Num: 1
Candidate Starts for MEAK_12:
(Start: 1 @7811 has 43 MA's), (3, 7832), (4, 7856), (5, 7859), (8, 7964), (9, 7967), (10, 7976), (11, 7979), (13, 8006), (16, 8030), (18, 8039), (19, 8063),

Gene: Moyashi_12 Start: 7853, Stop: 8149, Start Num: 1
Candidate Starts for Moyashi_12:
(Start: 1 @7853 has 43 MA's), (3, 7874), (4, 7898), (5, 7901), (8, 8006), (9, 8009), (10, 8018), (13, 8048), (14, 8057), (16, 8072), (18, 8081), (19, 8105),

Gene: MrAK_12 Start: 7865, Stop: 8161, Start Num: 1
Candidate Starts for MrAK_12:
(Start: 1 @7865 has 43 MA's), (3, 7886), (4, 7910), (5, 7913), (8, 8018), (9, 8021), (10, 8030), (11, 8033), (13, 8060), (14, 8069), (16, 8084), (18, 8093), (19, 8117),

Gene: Ouroboros_12 Start: 7814, Stop: 8110, Start Num: 1
Candidate Starts for Ouroboros_12:
(Start: 1 @7814 has 43 MA's), (4, 7859), (5, 7862), (8, 7967), (9, 7970), (10, 7979), (11, 7982), (13, 8009), (14, 8018), (16, 8033), (19, 8066),

Gene: P1.1_12 Start: 7822, Stop: 8118, Start Num: 1
Candidate Starts for P1.1_12:
(Start: 1 @7822 has 43 MA's), (3, 7843), (4, 7867), (5, 7870), (8, 7975), (9, 7978), (10, 7987), (11, 7990), (13, 8017), (16, 8041), (18, 8050), (19, 8074),

Gene: P100.1_12 Start: 7829, Stop: 8125, Start Num: 1
Candidate Starts for P100.1_12:
(Start: 1 @7829 has 43 MA's), (3, 7850), (4, 7874), (5, 7877), (8, 7982), (9, 7985), (10, 7994), (11, 7997), (13, 8024), (16, 8048), (18, 8057), (19, 8081),

Gene: P100A_12 Start: 7823, Stop: 8119, Start Num: 1
Candidate Starts for P100A_12:
(Start: 1 @7823 has 43 MA's), (2, 7841), (4, 7868), (5, 7871), (7, 7913), (8, 7976), (9, 7979), (10, 7988), (11, 7991), (13, 8018), (14, 8027), (16, 8042), (19, 8075),

Gene: P100D_12 Start: 7825, Stop: 8121, Start Num: 1
Candidate Starts for P100D_12:
(Start: 1 @7825 has 43 MA's), (3, 7846), (4, 7870), (5, 7873), (8, 7978), (9, 7981), (10, 7990), (11, 7993), (13, 8020), (14, 8029), (16, 8044), (19, 8077),

Gene: P101A_12 Start: 7837, Stop: 8133, Start Num: 1
Candidate Starts for P101A_12:
(Start: 1 @7837 has 43 MA's), (4, 7882), (5, 7885), (8, 7990), (9, 7993), (10, 8002), (11, 8005), (13, 8032), (16, 8056), (18, 8065), (19, 8089),

Gene: P104A_12 Start: 7808, Stop: 8104, Start Num: 1
Candidate Starts for P104A_12:
(Start: 1 @7808 has 43 MA's), (3, 7829), (4, 7853), (5, 7856), (8, 7961), (9, 7964), (10, 7973), (11, 7976), (13, 8003), (14, 8012), (16, 8027), (19, 8060),

Gene: P104B_12 Start: 7825, Stop: 8121, Start Num: 1
Candidate Starts for P104B_12:
(Start: 1 @7825 has 43 MA's), (4, 7870), (5, 7873), (6, 7903), (7, 7915), (8, 7978), (9, 7981), (10, 7990), (11, 7993), (13, 8020), (16, 8044), (19, 8077), (20, 8110),

Gene: P105_12 Start: 7810, Stop: 8106, Start Num: 1
Candidate Starts for P105_12:
(Start: 1 @7810 has 43 MA's), (3, 7831), (4, 7855), (5, 7858), (8, 7963), (9, 7966), (10, 7975), (11, 7978), (13, 8005), (16, 8029), (18, 8038), (19, 8062),

Gene: P106A_12 Start: 7853, Stop: 8149, Start Num: 1
Candidate Starts for P106A_12:
(Start: 1 @7853 has 43 MA's), (3, 7874), (4, 7898), (5, 7901), (8, 8006), (9, 8009), (10, 8018), (11, 8021), (13, 8048), (14, 8057), (16, 8072), (18, 8081), (19, 8105),

Gene: P106C_12 Start: 7853, Stop: 8149, Start Num: 1
Candidate Starts for P106C_12:
(Start: 1 @7853 has 43 MA's), (3, 7874), (4, 7898), (5, 7901), (8, 8006), (9, 8009), (10, 8018), (11, 8021), (13, 8048), (14, 8057), (16, 8072), (18, 8081), (19, 8105),

Gene: P106I_12 Start: 7853, Stop: 8149, Start Num: 1
Candidate Starts for P106I_12:
(Start: 1 @7853 has 43 MA's), (3, 7874), (4, 7898), (5, 7901), (8, 8006), (9, 8009), (10, 8018), (11, 8021), (13, 8048), (14, 8057), (16, 8072), (18, 8081), (19, 8105),

Gene: P106L_12 Start: 7853, Stop: 8149, Start Num: 1
Candidate Starts for P106L_12:
(Start: 1 @7853 has 43 MA's), (3, 7874), (4, 7898), (5, 7901), (8, 8006), (9, 8009), (10, 8018), (11, 8021), (13, 8048), (14, 8057), (16, 8072), (18, 8081), (19, 8105),

Gene: P106M_12 Start: 7853, Stop: 8149, Start Num: 1
Candidate Starts for P106M_12:
(Start: 1 @7853 has 43 MA's), (3, 7874), (4, 7898), (5, 7901), (8, 8006), (9, 8009), (10, 8018), (11, 8021), (13, 8048), (14, 8057), (16, 8072), (18, 8081), (19, 8105),

Gene: P107A_12 Start: 7830, Stop: 8126, Start Num: 1
Candidate Starts for P107A_12:

(Start: 1 @7830 has 43 MA's), (4, 7875), (5, 7878), (8, 7983), (9, 7986), (10, 7995), (11, 7998), (13, 8025), (14, 8034), (16, 8049), (19, 8082),

Gene: P107C_12 Start: 7812, Stop: 8108, Start Num: 1
Candidate Starts for P107C_12:
(Start: 1 @7812 has 43 MA's), (3, 7833), (4, 7857), (5, 7860), (6, 7890), (7, 7902), (8, 7965), (9, 7968), (10, 7977), (11, 7980), (13, 8007), (16, 8031), (19, 8064), (20, 8097),

Gene: P108C_12 Start: 7820, Stop: 8116, Start Num: 1
Candidate Starts for P108C_12:
(Start: 1 @7820 has 43 MA's), (3, 7841), (4, 7865), (5, 7868), (8, 7973), (9, 7976), (10, 7985), (11, 7988), (13, 8015), (16, 8039), (18, 8048), (19, 8072),

Gene: P14.4_12 Start: 7820, Stop: 8116, Start Num: 1
Candidate Starts for P14.4_12:
(Start: 1 @7820 has 43 MA's), (3, 7841), (4, 7865), (5, 7868), (8, 7973), (9, 7976), (10, 7985), (13, 8015), (16, 8039), (18, 8048), (19, 8072),

Gene: P9.1_12 Start: 7815, Stop: 8111, Start Num: 1
Candidate Starts for P9.1_12:
(Start: 1 @7815 has 43 MA's), (3, 7836), (4, 7860), (5, 7863), (8, 7968), (9, 7971), (10, 7980), (11, 7983), (13, 8010), (16, 8034), (18, 8043), (19, 8067),

Gene: PA6_12 Start: 7842, Stop: 8138, Start Num: 1
Candidate Starts for PA6_12:
(Start: 1 @7842 has 43 MA's), (3, 7863), (4, 7887), (5, 7890), (8, 7995), (9, 7998), (10, 8007), (11, 8010), (13, 8037), (16, 8061), (18, 8070), (19, 8094),

Gene: PAD20_12 Start: 7821, Stop: 8114, Start Num: 1
Candidate Starts for PAD20_12:
(Start: 1 @7821 has 43 MA's), (3, 7842), (4, 7866), (5, 7869), (8, 7971), (9, 7974), (10, 7983), (11, 7986), (12, 8004), (13, 8013), (16, 8037), (18, 8046), (19, 8070),

Gene: PAS50_12 Start: 7827, Stop: 8123, Start Num: 1
Candidate Starts for PAS50_12:
(Start: 1 @7827 has 43 MA's), (3, 7848), (4, 7872), (5, 7875), (7, 7917), (8, 7980), (9, 7983), (10, 7992), (11, 7995), (13, 8022), (14, 8031), (16, 8046), (19, 8079),

Gene: PHL010M04_12 Start: 7815, Stop: 8111, Start Num: 1
Candidate Starts for PHL010M04_12:
(Start: 1 @7815 has 43 MA's), (3, 7836), (4, 7860), (5, 7863), (8, 7968), (9, 7971), (10, 7980), (11, 7983), (15, 8028), (16, 8034), (17, 8037), (19, 8067), (20, 8100),

Gene: PHL037M02_12 Start: 7831, Stop: 8127, Start Num: 1
Candidate Starts for PHL037M02_12:
(Start: 1 @7831 has 43 MA's), (3, 7852), (4, 7876), (5, 7879), (8, 7984), (9, 7987), (10, 7996), (11, 7999), (13, 8026), (14, 8035), (16, 8050), (18, 8059), (19, 8083),

Gene: PHL060L00_12 Start: 7831, Stop: 8127, Start Num: 1
Candidate Starts for PHL060L00_12:
(Start: 1 @7831 has 43 MA's), (3, 7852), (4, 7876), (5, 7879), (8, 7984), (9, 7987), (10, 7996), (11, 7999), (13, 8026), (16, 8050), (18, 8059), (19, 8083),

Gene: PHL067M10_12 Start: 7798, Stop: 8094, Start Num: 1
Candidate Starts for PHL067M10_12:
(Start: 1 @7798 has 43 MA's), (3, 7819), (4, 7843), (5, 7846), (7, 7888), (8, 7951), (9, 7954), (10, 7963), (11, 7966), (13, 7993), (14, 8002), (16, 8017), (18, 8026), (19, 8050), (20, 8083),

Gene: PHL071N05_12 Start: 7826, Stop: 8122, Start Num: 1
Candidate Starts for PHL071N05_12:
(Start: 1 @7826 has 43 MA's), (4, 7871), (5, 7874), (8, 7979), (9, 7982), (10, 7991), (11, 7994), (13, 8021), (16, 8045), (18, 8054), (19, 8078),

Gene: PHL111M01_12 Start: 7816, Stop: 8112, Start Num: 1
Candidate Starts for PHL111M01_12:
(Start: 1 @7816 has 43 MA's), (4, 7861), (5, 7864), (8, 7969), (9, 7972), (10, 7981), (11, 7984), (13, 8011), (14, 8020), (16, 8035), (18, 8044), (19, 8068), (20, 8101),

Gene: PHL112N00_12 Start: 7812, Stop: 8108, Start Num: 1
Candidate Starts for PHL112N00_12:
(Start: 1 @7812 has 43 MA's), (3, 7833), (4, 7857), (5, 7860), (7, 7902), (8, 7965), (9, 7968), (10, 7977), (11, 7980), (13, 8007), (16, 8031), (19, 8064), (20, 8097),

Gene: PHL113M01_12 Start: 7840, Stop: 8136, Start Num: 1
Candidate Starts for PHL113M01_12:
(Start: 1 @7840 has 43 MA's), (3, 7861), (4, 7885), (5, 7888), (8, 7993), (9, 7996), (10, 8005), (11, 8008), (13, 8035), (16, 8059), (19, 8092),

Gene: PHL114L00_12 Start: 7818, Stop: 8114, Start Num: 1
Candidate Starts for PHL114L00_12:
(Start: 1 @7818 has 43 MA's), (4, 7863), (5, 7866), (7, 7908), (8, 7971), (9, 7974), (10, 7983), (11, 7986), (13, 8013), (16, 8037), (17, 8040), (18, 8046), (19, 8070),

Gene: Pirate_12 Start: 7809, Stop: 8105, Start Num: 1
Candidate Starts for Pirate_12:
(Start: 1 @7809 has 43 MA's), (3, 7830), (4, 7854), (5, 7857), (8, 7962), (9, 7965), (10, 7974), (11, 7977), (13, 8004), (16, 8028), (19, 8061),

Gene: Procrass1_12 Start: 7823, Stop: 8119, Start Num: 1
Candidate Starts for Procrass1_12:
(Start: 1 @7823 has 43 MA's), (3, 7844), (4, 7868), (5, 7871), (8, 7976), (9, 7979), (10, 7988), (11, 7991), (13, 8018), (16, 8042), (19, 8075),

Gene: QueenBey_12 Start: 7817, Stop: 8113, Start Num: 1
Candidate Starts for QueenBey_12:
(Start: 1 @7817 has 43 MA's), (4, 7862), (5, 7865), (8, 7970), (9, 7973), (10, 7982), (11, 7985), (13, 8012), (14, 8021), (16, 8036), (19, 8069),

Gene: Rileysaurus_12 Start: 7812, Stop: 8108, Start Num: 1
Candidate Starts for Rileysaurus_12:
(Start: 1 @7812 has 43 MA's), (3, 7833), (4, 7857), (5, 7860), (7, 7902), (8, 7965), (9, 7968), (10, 7977), (11, 7980), (13, 8007), (14, 8016), (16, 8031), (19, 8064), (20, 8097),

Gene: SKKY_12 Start: 7859, Stop: 8155, Start Num: 1
Candidate Starts for SKKY_12:

(Start: 1 @7859 has 43 MA's), (3, 7880), (4, 7904), (5, 7907), (8, 8012), (9, 8015), (10, 8024), (11, 8027), (13, 8054), (14, 8063), (16, 8078), (18, 8087), (19, 8111),

Gene: Solid_12 Start: 7812, Stop: 8108, Start Num: 1
Candidate Starts for Solid_12:
(Start: 1 @7812 has 43 MA's), (3, 7833), (4, 7857), (5, 7860), (7, 7902), (8, 7965), (9, 7968), (10, 7977), (11, 7980), (13, 8007), (16, 8031), (19, 8064),

Gene: Stormborn_12 Start: 7826, Stop: 8122, Start Num: 1
Candidate Starts for Stormborn_12:
(Start: 1 @7826 has 43 MA's), (4, 7871), (5, 7874), (8, 7979), (9, 7982), (10, 7991), (11, 7994), (13, 8021), (16, 8045), (19, 8078),

Gene: Supernova_12 Start: 7831, Stop: 8127, Start Num: 1
Candidate Starts for Supernova_12:
(Start: 1 @7831 has 43 MA's), (4, 7876), (5, 7879), (8, 7984), (9, 7987), (10, 7996), (11, 7999), (13, 8026), (14, 8035), (16, 8050), (18, 8059), (19, 8083),

Gene: Wizzo_12 Start: 7844, Stop: 8140, Start Num: 1
Candidate Starts for Wizzo_12:
(Start: 1 @7844 has 43 MA's), (3, 7865), (4, 7889), (5, 7892), (7, 7934), (8, 7997), (9, 8000), (10, 8009), (11, 8012), (13, 8039), (16, 8063), (19, 8096), (20, 8129),