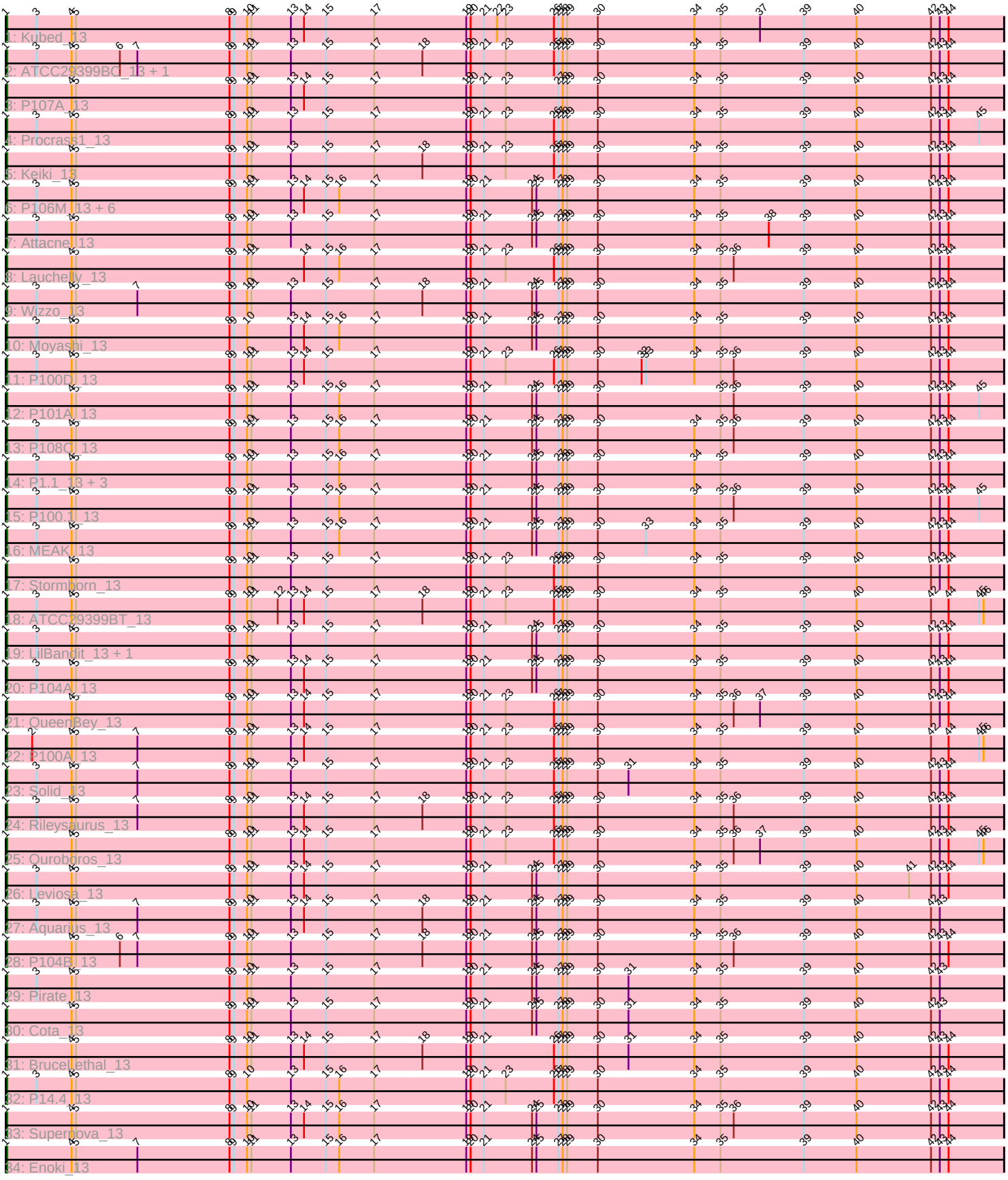
Pham 345868



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 345868 Report

This analysis was run 11/14/26 on database version 672.

Pham number 345868 has 45 members, 0 are drafts.

Phages represented in each track:
- Track 1 : Kubed_13
- Track 2 : ATCC29399BC_13, P107C_13
- Track 3 : P107A_13
- Track 4 : Procrass1_13
- Track 5 : Keiki_13
- Track 6 : P106M_13, P106L_13, SKKY_13, P106C_13, P106A_13, P106I_13, MrAK_13
- Track 7 : Attacne_13
- Track 8 : Lauchelly_13
- Track 9 : Wizzo_13
- Track 10 : Moyashi_13
- Track 11 : P100D_13
- Track 12 : P101A_13
- Track 13 : P108C_13
- Track 14 : P1.1_13, P9.1_13, P105_13, DrParker_13
- Track 15 : P100.1_13
- Track 16 : MEAK_13
- Track 17 : Stormborn_13
- Track 18 : ATCC29399BT_13
- Track 19 : LilBandit_13, Enochoraptor_13
- Track 20 : P104A_13
- Track 21 : QueenBey_13
- Track 22 : P100A_13
- Track 23 : Solid_13
- Track 24 : Rileysaurus_13
- Track 25 : Ouroboros_13
- Track 26 : Leviosa_13
- Track 27 : Aquarius_13
- Track 28 : P104B_13
- Track 29 : Pirate_13
- Track 30 : Cota_13
- Track 31 : BruceLethal_13
- Track 32 : P14.4_13
- Track 33 : Supernova_13
- Track 34 : Enoki_13

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 45 of the 45 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• ATCC29399BC_13, ATCC29399BT_13, Aquarius_13, Attacne_13, BruceLethal_13, Cota_13, DrParker_13, Enochoraptor_13, Enoki_13, Keiki_13, Kubed_13, Lauchelly_13, Leviosa_13, LilBandit_13, MEAK_13, Moyashi_13, MrAK_13, Ouroboros_13, P1.1_13, P100.1_13, P100A_13, P100D_13, P101A_13, P104A_13, P104B_13, P105_13, P106A_13, P106C_13, P106I_13, P106L_13, P106M_13, P107A_13, P107C_13, P108C_13, P14.4_13, P9.1_13, Pirate_13, Procrass1_13, QueenBey_13, Rileysaurus_13, SKKY_13, Solid_13, Stormborn_13, Supernova_13, Wizzo_13,

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 45 of 45 (100.0%) of genes in pham
• Manual Annotations of this start: 45 of 45
• Called 100.0% of time when present
• Phage (with cluster) where this start called: ATCC29399BC_13 (BU), ATCC29399BT_13 (BU), Aquarius_13 (BU), Attacne_13 (BU), BruceLethal_13 (BU), Cota_13 (BU), DrParker_13 (BU), Enochoraptor_13 (BU), Enoki_13 (BU), Keiki_13 (BU), Kubed_13 (BU), Lauchelly_13 (BU), Leviosa_13 (BU), LilBandit_13 (BU), MEAK_13 (BU), Moyashi_13 (BU), MrAK_13 (BU), Ouroboros_13 (BU), P1.1_13 (BU), P100.1_13 (BU), P100A_13 (BU), P100D_13 (BU), P101A_13 (BU), P104A_13 (BU), P104B_13 (BU), P105_13 (BU), P106A_13 (BU), P106C_13 (BU), P106I_13 (BU), P106L_13 (BU), P106M_13 (BU), P107A_13 (BU), P107C_13 (BU), P108C_13 (BU), P14.4_13 (BU), P9.1_13 (BU), Pirate_13 (BU), Procrass1_13 (BU), QueenBey_13 (BU), Rileysaurus_13 (BU), SKKY_13 (BU), Solid_13 (BU), Stormborn_13 (BU), Supernova_13 (BU), Wizzo_13 (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 45 times for cluster BU.

Gene Information:

Gene: ATCC29399BC_13 Start: 7812, Stop: 8494, Start Num: 1
Candidate Starts for ATCC29399BC_13:

(Start: 1 @7812 has 45 MA's), (3, 7833), (4, 7857), (5, 7860), (6, 7890), (7, 7902), (8, 7965), (9, 7968), (10, 7977), (11, 7980), (13, 8007), (15, 8031), (17, 8064), (18, 8097), (19, 8127), (20, 8130), (21, 8139), (23, 8154), (26, 8187), (27, 8190), (28, 8193), (29, 8196), (30, 8217), (34, 8283), (35, 8301), (39, 8358), (40, 8394), (42, 8445), (43, 8451), (44, 8457),

Gene: ATCC29399BT_13 Start: 7809, Stop: 8491, Start Num: 1
Candidate Starts for ATCC29399BT_13:
(Start: 1 @7809 has 45 MA's), (3, 7830), (4, 7854), (5, 7857), (8, 7962), (9, 7965), (10, 7974), (11, 7977), (12, 7995), (13, 8004), (14, 8013), (15, 8028), (17, 8061), (18, 8094), (19, 8124), (20, 8127), (21, 8136), (23, 8151), (26, 8184), (27, 8187), (28, 8190), (29, 8193), (30, 8214), (34, 8280), (35, 8298), (39, 8355), (40, 8391), (42, 8442), (44, 8454), (45, 8475), (46, 8478),

Gene: Aquarius_13 Start: 7829, Stop: 8511, Start Num: 1
Candidate Starts for Aquarius_13:
(Start: 1 @7829 has 45 MA's), (3, 7850), (4, 7874), (5, 7877), (7, 7919), (8, 7982), (9, 7985), (10, 7994), (11, 7997), (13, 8024), (14, 8033), (15, 8048), (17, 8081), (18, 8114), (19, 8144), (20, 8147), (21, 8156), (24, 8189), (25, 8192), (27, 8207), (28, 8210), (29, 8213), (30, 8234), (34, 8300), (35, 8318), (39, 8375), (40, 8411), (42, 8462), (43, 8468),

Gene: Attacne_13 Start: 7815, Stop: 8497, Start Num: 1
Candidate Starts for Attacne_13:
(Start: 1 @7815 has 45 MA's), (3, 7836), (4, 7860), (5, 7863), (8, 7968), (9, 7971), (10, 7980), (11, 7983), (13, 8010), (15, 8034), (17, 8067), (19, 8130), (20, 8133), (21, 8142), (24, 8175), (25, 8178), (27, 8193), (28, 8196), (29, 8199), (30, 8220), (34, 8286), (35, 8304), (38, 8337), (39, 8361), (40, 8397), (42, 8448), (43, 8454), (44, 8460),

Gene: BruceLethal_13 Start: 7819, Stop: 8501, Start Num: 1
Candidate Starts for BruceLethal_13:
(Start: 1 @7819 has 45 MA's), (4, 7864), (5, 7867), (8, 7972), (9, 7975), (10, 7984), (11, 7987), (13, 8014), (14, 8023), (15, 8038), (17, 8071), (18, 8104), (19, 8134), (20, 8137), (21, 8146), (26, 8194), (27, 8197), (28, 8200), (29, 8203), (30, 8224), (31, 8245), (34, 8290), (35, 8308), (39, 8365), (40, 8401), (42, 8452), (43, 8458), (44, 8464),

Gene: Cota_13 Start: 7824, Stop: 8506, Start Num: 1
Candidate Starts for Cota_13:
(Start: 1 @7824 has 45 MA's), (4, 7869), (5, 7872), (8, 7977), (9, 7980), (10, 7989), (11, 7992), (13, 8019), (15, 8043), (17, 8076), (19, 8139), (20, 8142), (21, 8151), (24, 8184), (25, 8187), (27, 8202), (28, 8205), (29, 8208), (30, 8229), (31, 8250), (34, 8295), (35, 8313), (39, 8370), (40, 8406), (42, 8457), (43, 8463),

Gene: DrParker_13 Start: 7854, Stop: 8536, Start Num: 1
Candidate Starts for DrParker_13:
(Start: 1 @7854 has 45 MA's), (3, 7875), (4, 7899), (5, 7902), (8, 8007), (9, 8010), (10, 8019), (11, 8022), (13, 8049), (15, 8073), (16, 8082), (17, 8106), (19, 8169), (20, 8172), (21, 8181), (24, 8214), (25, 8217), (27, 8232), (28, 8235), (29, 8238), (30, 8259), (34, 8325), (35, 8343), (39, 8400), (40, 8436), (42, 8487), (43, 8493), (44, 8499),

Gene: Enochoraptor_13 Start: 7827, Stop: 8509, Start Num: 1
Candidate Starts for Enochoraptor_13:
(Start: 1 @7827 has 45 MA's), (3, 7848), (4, 7872), (5, 7875), (8, 7980), (9, 7983), (10, 7992), (11, 7995), (13, 8022), (15, 8046), (17, 8079), (19, 8142), (20, 8145), (21, 8154), (24, 8187), (25, 8190), (27, 8205), (28, 8208), (29, 8211), (30, 8232), (34, 8298), (35, 8316), (39, 8373), (40, 8409), (42, 8460), (43, 8466), (44, 8472),

Gene: Enoki_13 Start: 7810, Stop: 8492, Start Num: 1
Candidate Starts for Enoki_13:
(Start: 1 @7810 has 45 MA's), (4, 7855), (5, 7858), (7, 7900), (8, 7963), (9, 7966), (10, 7975), (11, 7978), (13, 8005), (15, 8029), (16, 8038), (17, 8062), (19, 8125), (20, 8128), (21, 8137), (24, 8170), (25, 8173), (27, 8188), (28, 8191), (29, 8194), (30, 8215), (34, 8281), (35, 8299), (39, 8356), (40, 8392), (42, 8443), (43, 8449), (44, 8455),

Gene: Keiki_13 Start: 7824, Stop: 8506, Start Num: 1
Candidate Starts for Keiki_13:
(Start: 1 @7824 has 45 MA's), (4, 7869), (5, 7872), (8, 7977), (9, 7980), (10, 7989), (11, 7992), (13, 8019), (15, 8043), (17, 8076), (18, 8109), (19, 8139), (20, 8142), (21, 8151), (23, 8166), (26, 8199), (27, 8202), (28, 8205), (29, 8208), (30, 8229), (34, 8295), (35, 8313), (39, 8370), (40, 8406), (42, 8457), (43, 8463), (44, 8469),

Gene: Kubed_13 Start: 7819, Stop: 8501, Start Num: 1
Candidate Starts for Kubed_13:
(Start: 1 @7819 has 45 MA's), (3, 7840), (4, 7864), (5, 7867), (8, 7972), (9, 7975), (10, 7984), (11, 7987), (13, 8014), (14, 8023), (15, 8038), (17, 8071), (19, 8134), (20, 8137), (21, 8146), (22, 8155), (23, 8161), (26, 8194), (27, 8197), (28, 8200), (29, 8203), (30, 8224), (34, 8290), (35, 8308), (37, 8335), (39, 8365), (40, 8401), (42, 8452), (43, 8458), (44, 8464),

Gene: Lauchelly_13 Start: 7822, Stop: 8504, Start Num: 1
Candidate Starts for Lauchelly_13:
(Start: 1 @7822 has 45 MA's), (4, 7867), (5, 7870), (8, 7975), (9, 7978), (10, 7987), (11, 7990), (14, 8026), (15, 8041), (16, 8050), (17, 8074), (19, 8137), (20, 8140), (21, 8149), (23, 8164), (26, 8197), (27, 8200), (28, 8203), (29, 8206), (30, 8227), (34, 8293), (35, 8311), (36, 8320), (39, 8368), (40, 8404), (42, 8455), (43, 8461), (44, 8467),

Gene: Leviosa_13 Start: 7841, Stop: 8523, Start Num: 1
Candidate Starts for Leviosa_13:
(Start: 1 @7841 has 45 MA's), (3, 7862), (4, 7886), (5, 7889), (8, 7994), (9, 7997), (10, 8006), (11, 8009), (13, 8036), (14, 8045), (15, 8060), (17, 8093), (19, 8156), (20, 8159), (21, 8168), (24, 8201), (25, 8204), (27, 8219), (28, 8222), (29, 8225), (30, 8246), (34, 8312), (35, 8330), (39, 8387), (40, 8423), (41, 8459), (42, 8474), (43, 8480), (44, 8486),

Gene: LilBandit_13 Start: 7825, Stop: 8507, Start Num: 1
Candidate Starts for LilBandit_13:
(Start: 1 @7825 has 45 MA's), (3, 7846), (4, 7870), (5, 7873), (8, 7978), (9, 7981), (10, 7990), (11, 7993), (13, 8020), (15, 8044), (17, 8077), (19, 8140), (20, 8143), (21, 8152), (24, 8185), (25, 8188), (27, 8203), (28, 8206), (29, 8209), (30, 8230), (34, 8296), (35, 8314), (39, 8371), (40, 8407), (42, 8458), (43, 8464), (44, 8470),

Gene: MEAK_13 Start: 7811, Stop: 8493, Start Num: 1
Candidate Starts for MEAK_13:
(Start: 1 @7811 has 45 MA's), (3, 7832), (4, 7856), (5, 7859), (8, 7964), (9, 7967), (10, 7976), (11, 7979), (13, 8006), (15, 8030), (16, 8039), (17, 8063), (19, 8126), (20, 8129), (21, 8138), (24, 8171), (25, 8174), (27, 8189), (28, 8192), (29, 8195), (30, 8216), (33, 8249), (34, 8282), (35, 8300), (39, 8357), (40, 8393), (42, 8444), (43, 8450), (44, 8456),

Gene: Moyashi_13 Start: 7853, Stop: 8535, Start Num: 1
Candidate Starts for Moyashi_13:

(Start: 1 @7853 has 45 MA's), (3, 7874), (4, 7898), (5, 7901), (8, 8006), (9, 8009), (10, 8018), (13, 8048), (14, 8057), (15, 8072), (16, 8081), (17, 8105), (19, 8168), (20, 8171), (21, 8180), (24, 8213), (25, 8216), (27, 8231), (28, 8234), (29, 8237), (30, 8258), (34, 8324), (35, 8342), (39, 8399), (40, 8435), (42, 8486), (43, 8492), (44, 8498),

Gene: MrAK_13 Start: 7865, Stop: 8547, Start Num: 1
Candidate Starts for MrAK_13:
(Start: 1 @7865 has 45 MA's), (3, 7886), (4, 7910), (5, 7913), (8, 8018), (9, 8021), (10, 8030), (11, 8033), (13, 8060), (14, 8069), (15, 8084), (16, 8093), (17, 8117), (19, 8180), (20, 8183), (21, 8192), (24, 8225), (25, 8228), (27, 8243), (28, 8246), (29, 8249), (30, 8270), (34, 8336), (35, 8354), (39, 8411), (40, 8447), (42, 8498), (43, 8504), (44, 8510),

Gene: Ouroboros_13 Start: 7814, Stop: 8496, Start Num: 1
Candidate Starts for Ouroboros_13:
(Start: 1 @7814 has 45 MA's), (4, 7859), (5, 7862), (8, 7967), (9, 7970), (10, 7979), (11, 7982), (13, 8009), (14, 8018), (15, 8033), (17, 8066), (19, 8129), (20, 8132), (21, 8141), (23, 8156), (26, 8189), (27, 8192), (28, 8195), (29, 8198), (30, 8219), (34, 8285), (35, 8303), (36, 8312), (37, 8330), (39, 8360), (40, 8396), (42, 8447), (43, 8453), (44, 8459), (45, 8480), (46, 8483),

Gene: P1.1_13 Start: 7822, Stop: 8504, Start Num: 1
Candidate Starts for P1.1_13:
(Start: 1 @7822 has 45 MA's), (3, 7843), (4, 7867), (5, 7870), (8, 7975), (9, 7978), (10, 7987), (11, 7990), (13, 8017), (15, 8041), (16, 8050), (17, 8074), (19, 8137), (20, 8140), (21, 8149), (24, 8182), (25, 8185), (27, 8200), (28, 8203), (29, 8206), (30, 8227), (34, 8293), (35, 8311), (39, 8368), (40, 8404), (42, 8455), (43, 8461), (44, 8467),

Gene: P100.1_13 Start: 7829, Stop: 8511, Start Num: 1
Candidate Starts for P100.1_13:
(Start: 1 @7829 has 45 MA's), (3, 7850), (4, 7874), (5, 7877), (8, 7982), (9, 7985), (10, 7994), (11, 7997), (13, 8024), (15, 8048), (16, 8057), (17, 8081), (19, 8144), (20, 8147), (21, 8156), (24, 8189), (25, 8192), (27, 8207), (28, 8210), (29, 8213), (30, 8234), (34, 8300), (35, 8318), (36, 8327), (39, 8375), (40, 8411), (42, 8462), (43, 8468), (44, 8474), (45, 8495),

Gene: P100A_13 Start: 7823, Stop: 8505, Start Num: 1
Candidate Starts for P100A_13:
(Start: 1 @7823 has 45 MA's), (2, 7841), (4, 7868), (5, 7871), (7, 7913), (8, 7976), (9, 7979), (10, 7988), (11, 7991), (13, 8018), (14, 8027), (15, 8042), (17, 8075), (19, 8138), (20, 8141), (21, 8150), (23, 8165), (26, 8198), (27, 8201), (28, 8204), (29, 8207), (30, 8228), (34, 8294), (35, 8312), (39, 8369), (40, 8405), (42, 8456), (44, 8468), (45, 8489), (46, 8492),

Gene: P100D_13 Start: 7825, Stop: 8507, Start Num: 1
Candidate Starts for P100D_13:
(Start: 1 @7825 has 45 MA's), (3, 7846), (4, 7870), (5, 7873), (8, 7978), (9, 7981), (10, 7990), (11, 7993), (13, 8020), (14, 8029), (15, 8044), (17, 8077), (19, 8140), (20, 8143), (21, 8152), (23, 8167), (26, 8200), (27, 8203), (28, 8206), (29, 8209), (30, 8230), (32, 8260), (33, 8263), (34, 8296), (35, 8314), (36, 8323), (39, 8371), (40, 8407), (42, 8458), (43, 8464), (44, 8470),

Gene: P101A_13 Start: 7837, Stop: 8519, Start Num: 1
Candidate Starts for P101A_13:
(Start: 1 @7837 has 45 MA's), (4, 7882), (5, 7885), (8, 7990), (9, 7993), (10, 8002), (11, 8005), (13, 8032), (15, 8056), (16, 8065), (17, 8089), (19, 8152), (20, 8155), (21, 8164), (24, 8197), (25, 8200), (27, 8215), (28, 8218), (29, 8221), (30, 8242), (35, 8326), (36, 8335), (39, 8383), (40, 8419), (42, 8470), (43, 8476), (44, 8482), (45, 8503),

Gene: P104A_13 Start: 7808, Stop: 8490, Start Num: 1
Candidate Starts for P104A_13:
(Start: 1 @7808 has 45 MA's), (3, 7829), (4, 7853), (5, 7856), (8, 7961), (9, 7964), (10, 7973), (11, 7976), (13, 8003), (14, 8012), (15, 8027), (17, 8060), (19, 8123), (20, 8126), (21, 8135), (24, 8168), (25, 8171), (27, 8186), (28, 8189), (29, 8192), (30, 8213), (34, 8279), (35, 8297), (39, 8354), (40, 8390), (42, 8441), (43, 8447), (44, 8453),

Gene: P104B_13 Start: 7825, Stop: 8507, Start Num: 1
Candidate Starts for P104B_13:
(Start: 1 @7825 has 45 MA's), (4, 7870), (5, 7873), (6, 7903), (7, 7915), (8, 7978), (9, 7981), (10, 7990), (11, 7993), (13, 8020), (15, 8044), (17, 8077), (18, 8110), (19, 8140), (20, 8143), (21, 8152), (24, 8185), (25, 8188), (27, 8203), (28, 8206), (29, 8209), (30, 8230), (34, 8296), (35, 8314), (36, 8323), (39, 8371), (40, 8407), (42, 8458), (43, 8464), (44, 8470),

Gene: P105_13 Start: 7810, Stop: 8492, Start Num: 1
Candidate Starts for P105_13:
(Start: 1 @7810 has 45 MA's), (3, 7831), (4, 7855), (5, 7858), (8, 7963), (9, 7966), (10, 7975), (11, 7978), (13, 8005), (15, 8029), (16, 8038), (17, 8062), (19, 8125), (20, 8128), (21, 8137), (24, 8170), (25, 8173), (27, 8188), (28, 8191), (29, 8194), (30, 8215), (34, 8281), (35, 8299), (39, 8356), (40, 8392), (42, 8443), (43, 8449), (44, 8455),

Gene: P106A_13 Start: 7853, Stop: 8535, Start Num: 1
Candidate Starts for P106A_13:
(Start: 1 @7853 has 45 MA's), (3, 7874), (4, 7898), (5, 7901), (8, 8006), (9, 8009), (10, 8018), (11, 8021), (13, 8048), (14, 8057), (15, 8072), (16, 8081), (17, 8105), (19, 8168), (20, 8171), (21, 8180), (24, 8213), (25, 8216), (27, 8231), (28, 8234), (29, 8237), (30, 8258), (34, 8324), (35, 8342), (39, 8399), (40, 8435), (42, 8486), (43, 8492), (44, 8498),

Gene: P106C_13 Start: 7853, Stop: 8535, Start Num: 1
Candidate Starts for P106C_13:
(Start: 1 @7853 has 45 MA's), (3, 7874), (4, 7898), (5, 7901), (8, 8006), (9, 8009), (10, 8018), (11, 8021), (13, 8048), (14, 8057), (15, 8072), (16, 8081), (17, 8105), (19, 8168), (20, 8171), (21, 8180), (24, 8213), (25, 8216), (27, 8231), (28, 8234), (29, 8237), (30, 8258), (34, 8324), (35, 8342), (39, 8399), (40, 8435), (42, 8486), (43, 8492), (44, 8498),

Gene: P106I_13 Start: 7853, Stop: 8535, Start Num: 1
Candidate Starts for P106I_13:
(Start: 1 @7853 has 45 MA's), (3, 7874), (4, 7898), (5, 7901), (8, 8006), (9, 8009), (10, 8018), (11, 8021), (13, 8048), (14, 8057), (15, 8072), (16, 8081), (17, 8105), (19, 8168), (20, 8171), (21, 8180), (24, 8213), (25, 8216), (27, 8231), (28, 8234), (29, 8237), (30, 8258), (34, 8324), (35, 8342), (39, 8399), (40, 8435), (42, 8486), (43, 8492), (44, 8498),

Gene: P106L_13 Start: 7853, Stop: 8535, Start Num: 1
Candidate Starts for P106L_13:
(Start: 1 @7853 has 45 MA's), (3, 7874), (4, 7898), (5, 7901), (8, 8006), (9, 8009), (10, 8018), (11, 8021), (13, 8048), (14, 8057), (15, 8072), (16, 8081), (17, 8105), (19, 8168), (20, 8171), (21, 8180), (24, 8213), (25, 8216), (27, 8231), (28, 8234), (29, 8237), (30, 8258), (34, 8324), (35, 8342), (39, 8399), (40, 8435), (42, 8486), (43, 8492), (44, 8498),

Gene: P106M_13 Start: 7853, Stop: 8535, Start Num: 1
Candidate Starts for P106M_13:

(Start: 1 @7853 has 45 MA's), (3, 7874), (4, 7898), (5, 7901), (8, 8006), (9, 8009), (10, 8018), (11, 8021), (13, 8048), (14, 8057), (15, 8072), (16, 8081), (17, 8105), (19, 8168), (20, 8171), (21, 8180), (24, 8213), (25, 8216), (27, 8231), (28, 8234), (29, 8237), (30, 8258), (34, 8324), (35, 8342), (39, 8399), (40, 8435), (42, 8486), (43, 8492), (44, 8498),

Gene: P107A_13 Start: 7830, Stop: 8512, Start Num: 1
Candidate Starts for P107A_13:
(Start: 1 @7830 has 45 MA's), (4, 7875), (5, 7878), (8, 7983), (9, 7986), (10, 7995), (11, 7998), (13, 8025), (14, 8034), (15, 8049), (17, 8082), (19, 8145), (20, 8148), (21, 8157), (23, 8172), (27, 8208), (28, 8211), (29, 8214), (30, 8235), (34, 8301), (35, 8319), (39, 8376), (40, 8412), (42, 8463), (43, 8469), (44, 8475),

Gene: P107C_13 Start: 7812, Stop: 8494, Start Num: 1
Candidate Starts for P107C_13:
(Start: 1 @7812 has 45 MA's), (3, 7833), (4, 7857), (5, 7860), (6, 7890), (7, 7902), (8, 7965), (9, 7968), (10, 7977), (11, 7980), (13, 8007), (15, 8031), (17, 8064), (18, 8097), (19, 8127), (20, 8130), (21, 8139), (23, 8154), (26, 8187), (27, 8190), (28, 8193), (29, 8196), (30, 8217), (34, 8283), (35, 8301), (39, 8358), (40, 8394), (42, 8445), (43, 8451), (44, 8457),

Gene: P108C_13 Start: 7820, Stop: 8502, Start Num: 1
Candidate Starts for P108C_13:
(Start: 1 @7820 has 45 MA's), (3, 7841), (4, 7865), (5, 7868), (8, 7973), (9, 7976), (10, 7985), (11, 7988), (13, 8015), (15, 8039), (16, 8048), (17, 8072), (19, 8135), (20, 8138), (21, 8147), (24, 8180), (25, 8183), (27, 8198), (28, 8201), (29, 8204), (30, 8225), (34, 8291), (35, 8309), (36, 8318), (39, 8366), (40, 8402), (42, 8453), (43, 8459), (44, 8465),

Gene: P14.4_13 Start: 7820, Stop: 8502, Start Num: 1
Candidate Starts for P14.4_13:
(Start: 1 @7820 has 45 MA's), (3, 7841), (4, 7865), (5, 7868), (8, 7973), (9, 7976), (10, 7985), (13, 8015), (15, 8039), (16, 8048), (17, 8072), (19, 8135), (20, 8138), (21, 8147), (23, 8162), (26, 8195), (27, 8198), (28, 8201), (29, 8204), (30, 8225), (34, 8291), (35, 8309), (39, 8366), (40, 8402), (42, 8453), (43, 8459), (44, 8465),

Gene: P9.1_13 Start: 7815, Stop: 8497, Start Num: 1
Candidate Starts for P9.1_13:
(Start: 1 @7815 has 45 MA's), (3, 7836), (4, 7860), (5, 7863), (8, 7968), (9, 7971), (10, 7980), (11, 7983), (13, 8010), (15, 8034), (16, 8043), (17, 8067), (19, 8130), (20, 8133), (21, 8142), (24, 8175), (25, 8178), (27, 8193), (28, 8196), (29, 8199), (30, 8220), (34, 8286), (35, 8304), (39, 8361), (40, 8397), (42, 8448), (43, 8454), (44, 8460),

Gene: Pirate_13 Start: 7809, Stop: 8491, Start Num: 1
Candidate Starts for Pirate_13:
(Start: 1 @7809 has 45 MA's), (3, 7830), (4, 7854), (5, 7857), (8, 7962), (9, 7965), (10, 7974), (11, 7977), (13, 8004), (15, 8028), (17, 8061), (19, 8124), (20, 8127), (21, 8136), (24, 8169), (25, 8172), (27, 8187), (28, 8190), (29, 8193), (30, 8214), (31, 8235), (34, 8280), (35, 8298), (39, 8355), (40, 8391), (42, 8442), (43, 8448),

Gene: Procrass1_13 Start: 7823, Stop: 8505, Start Num: 1
Candidate Starts for Procrass1_13:
(Start: 1 @7823 has 45 MA's), (3, 7844), (4, 7868), (5, 7871), (8, 7976), (9, 7979), (10, 7988), (11, 7991), (13, 8018), (15, 8042), (17, 8075), (19, 8138), (20, 8141), (21, 8150), (23, 8165), (26, 8198), (27, 8201), (28, 8204), (29, 8207), (30, 8228), (34, 8294), (35, 8312), (39, 8369), (40, 8405), (42, 8456), (43, 8462), (44, 8468), (45, 8489),

Gene: QueenBey_13 Start: 7817, Stop: 8499, Start Num: 1
Candidate Starts for QueenBey_13:
(Start: 1 @7817 has 45 MA's), (4, 7862), (5, 7865), (8, 7970), (9, 7973), (10, 7982), (11, 7985), (13, 8012), (14, 8021), (15, 8036), (17, 8069), (19, 8132), (20, 8135), (21, 8144), (23, 8159), (26, 8192), (27, 8195), (28, 8198), (29, 8201), (30, 8222), (34, 8288), (35, 8306), (36, 8315), (37, 8333), (39, 8363), (40, 8399), (42, 8450), (43, 8456), (44, 8462),

Gene: Rileysaurus_13 Start: 7812, Stop: 8494, Start Num: 1
Candidate Starts for Rileysaurus_13:
(Start: 1 @7812 has 45 MA's), (3, 7833), (4, 7857), (5, 7860), (7, 7902), (8, 7965), (9, 7968), (10, 7977), (11, 7980), (13, 8007), (14, 8016), (15, 8031), (17, 8064), (18, 8097), (19, 8127), (20, 8130), (21, 8139), (23, 8154), (26, 8187), (27, 8190), (28, 8193), (29, 8196), (30, 8217), (34, 8283), (35, 8301), (36, 8310), (39, 8358), (40, 8394), (42, 8445), (43, 8451), (44, 8457),

Gene: SKKY_13 Start: 7859, Stop: 8541, Start Num: 1
Candidate Starts for SKKY_13:
(Start: 1 @7859 has 45 MA's), (3, 7880), (4, 7904), (5, 7907), (8, 8012), (9, 8015), (10, 8024), (11, 8027), (13, 8054), (14, 8063), (15, 8078), (16, 8087), (17, 8111), (19, 8174), (20, 8177), (21, 8186), (24, 8219), (25, 8222), (27, 8237), (28, 8240), (29, 8243), (30, 8264), (34, 8330), (35, 8348), (39, 8405), (40, 8441), (42, 8492), (43, 8498), (44, 8504),

Gene: Solid_13 Start: 7812, Stop: 8494, Start Num: 1
Candidate Starts for Solid_13:
(Start: 1 @7812 has 45 MA's), (3, 7833), (4, 7857), (5, 7860), (7, 7902), (8, 7965), (9, 7968), (10, 7977), (11, 7980), (13, 8007), (15, 8031), (17, 8064), (19, 8127), (20, 8130), (21, 8139), (23, 8154), (26, 8187), (27, 8190), (28, 8193), (29, 8196), (30, 8217), (31, 8238), (34, 8283), (35, 8301), (39, 8358), (40, 8394), (42, 8445), (43, 8451), (44, 8457),

Gene: Stormborn_13 Start: 7826, Stop: 8508, Start Num: 1
Candidate Starts for Stormborn_13:
(Start: 1 @7826 has 45 MA's), (4, 7871), (5, 7874), (8, 7979), (9, 7982), (10, 7991), (11, 7994), (13, 8021), (15, 8045), (17, 8078), (19, 8141), (20, 8144), (21, 8153), (23, 8168), (26, 8201), (27, 8204), (28, 8207), (29, 8210), (30, 8231), (34, 8297), (35, 8315), (39, 8372), (40, 8408), (42, 8459), (43, 8465), (44, 8471),

Gene: Supernova_13 Start: 7831, Stop: 8513, Start Num: 1
Candidate Starts for Supernova_13:
(Start: 1 @7831 has 45 MA's), (4, 7876), (5, 7879), (8, 7984), (9, 7987), (10, 7996), (11, 7999), (13, 8026), (14, 8035), (15, 8050), (16, 8059), (17, 8083), (19, 8146), (20, 8149), (21, 8158), (24, 8191), (25, 8194), (27, 8209), (28, 8212), (29, 8215), (30, 8236), (34, 8302), (35, 8320), (36, 8329), (39, 8377), (40, 8413), (42, 8464), (43, 8470), (44, 8476),

Gene: Wizzo_13 Start: 7844, Stop: 8526, Start Num: 1
Candidate Starts for Wizzo_13:
(Start: 1 @7844 has 45 MA's), (3, 7865), (4, 7889), (5, 7892), (7, 7934), (8, 7997), (9, 8000), (10, 8009), (11, 8012), (13, 8039), (15, 8063), (17, 8096), (18, 8129), (19, 8159), (20, 8162), (21, 8171), (24, 8204), (25, 8207), (27, 8222), (28, 8225), (29, 8228), (30, 8249), (34, 8315), (35, 8333), (39, 8390), (40, 8426), (42, 8477), (43, 8483), (44, 8489),