

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 1569 Report

This analysis was run 07/09/24 on database version 566.

Pham number 1569 has 57 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Kubed_10
- Track 2 : Keiki_10, Cota_10
- Track 3 : Procrass1_10
- Track 4 : P107A_10
- Track 5 : P106L_10, P106M_10, P106C_10, P106I_10, P106A_10
- Track 6 : Lauchelly_10
- Track 7 : PA6_10
- Track 8 : Attacne_10
- Track 9 : PAS50_10
- Track 10 : PHL114L00_10
- Track 11 : P100.1_10
- Track 12 : Moyashi_10
- Track 13 : P101A_10
- Track 14 : P100D_10
- Track 15 : Ouroboros_10
- Track 16 : P1.1_10
- Track 17 : P108C_10, P107C_10, Enochoraptor_10, ATCC29399BC_10, Pirate_10
- Track 18 : Stormborn_10
- Track 19 : MEAK_10
- Track 20 : PAD20_10
- Track 21 : LilBandit_10
- Track 22 : ATCC29399BT_10
- Track 23 : P104A_10
- Track 24 : PHL113M01_10
- Track 25 : SKKY_10
- Track 26 : PHL067M10_10
- Track 27 : QueenBey_10
- Track 28 : P100A_10
- Track 29 : Solid_10
- Track 30 : P9.1_10
- Track 31 : P105_10
- Track 32 : PHL037M02_10
- Track 33 : PHL010M04_10
- Track 34 : Aquarius_10
- Track 35 : Leviosa_10
- Track 36 : P104B_10
- Track 37 : Supernova_10

- Track 38 : PHL112N00_10
- Track 39 : BruceLethal_10
- Track 40 : Wizzo_10
- Track 41 : Rileysaurus_10
- Track 42 : P14.4_10
- Track 43 : PHL071N05_10
- Track 44 : PHL111M01_10
- Track 45 : DrParker_10
- Track 46 : PHL060L00_10
- Track 47 : Enoki_10
- Track 48 : MrAK_10

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 42 of the 43 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ATCC29399BC_10, ATCC29399BT_10, Aquarius_10, Attacne_10, BruceLethal_10, Cota_10, DrParker_10, Enochoraptor_10, Enoki_10, Keiki_10, Kubed_10, Lauchelly_10, Leviosa_10, LilBandit_10, MEAK_10, Moyashi_10, MrAK_10, Ouroboros_10, P1.1_10, P100.1_10, P100A_10, P100D_10, P101A_10, P104A_10, P104B_10, P105_10, P106A_10, P106C_10, P106I_10, P106L_10, P106M_10, P107A_10, P107C_10, P108C_10, P9.1_10, PAD20_10, PAS50_10, PHL010M04_10, PHL037M02_10, PHL060L00_10, PHL067M10_10, PHL071N05_10, PHL111M01_10, PHL112N00_10, PHL113M01_10, PHL114L00_10, Pirate_10, Procrass1_10, QueenBey_10, Rileysaurus_10, SKKY_10, Solid_10, Stormborn_10, Supernova_10, Wizzo_10,

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

- P14.4_10, PA6_10,

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: 42 of 43
- Called 96.5% of time when present
- Phage (with cluster) where this start called: ATCC29399BC_10 (BU), ATCC29399BT_10 (BU), Aquarius_10 (BU), Attacne_10 (BU), BruceLethal_10 (BU), Cota_10 (BU), DrParker_10 (BU), Enochoraptor_10 (BU), Enoki_10 (BU), Keiki_10 (BU), Kubed_10 (BU), Lauchelly_10 (BU), Leviosa_10 (BU), LilBandit_10 (BU), MEAK_10 (BU), Moyashi_10 (BU), MrAK_10 (BU), Ouroboros_10 (BU), P1.1_10 (BU), P100.1_10 (BU), P100A_10 (BU), P100D_10 (BU), P101A_10 (BU), P104A_10 (BU), P104B_10 (BU), P105_10 (BU), P106A_10 (BU), P106C_10 (BU), P106I_10 (BU), P106L_10 (BU), P106M_10 (BU), P107A_10 (BU), P107C_10 (BU), P108C_10 (BU), P9.1_10 (BU), PAD20_10 (BU), PAS50_10 (BU), PHL010M04_10 (BU),

PHL037M02_10 (BU), PHL060L00_10 (BU), PHL067M10_10 (BU), PHL071N05_10 (BU), PHL111M01_10 (BU), PHL112N00_10 (BU), PHL113M01_10 (BU), PHL114L00_10 (BU), Pirate_10 (BU), Procrass1_10 (BU), QueenBey_10 (BU), Rileysaurus_10 (BU), SKKY_10 (BU), Solid_10 (BU), Stormborn_10 (BU), Supernova_10 (BU), Wizzo_10 (BU),

Start 3:

- Found in 24 of 57 (42.1%) of genes in pham
- No Manual Annotations of this start.
- Called 4.2% of time when present
- Phage (with cluster) where this start called: PA6_10 (BU),

Start 4:

- Found in 53 of 57 (93.0%) of genes in pham
- Manual Annotations of this start: 1 of 43
- Called 1.9% of time when present
- Phage (with cluster) where this start called: P14.4_10 (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 42 times for cluster BU.
- Start number 4 was manually annotated 1 time for cluster BU.

Gene Information:

Gene: ATCC29399BC_10 Start: 6739, Stop: 7110, Start Num: 1

Candidate Starts for ATCC29399BC_10:

(Start: 1 @6739 has 42 MA's), (Start: 4 @6778 has 1 MA's), (8, 6817), (9, 6826), (11, 6859), (12, 6865), (13, 6883), (14, 6889), (16, 6907), (17, 6913), (18, 6919), (20, 6946), (21, 6952), (26, 7003), (27, 7006), (28, 7036), (31, 7063),

Gene: ATCC29399BT_10 Start: 6735, Stop: 7106, Start Num: 1

Candidate Starts for ATCC29399BT_10:

(Start: 1 @6735 has 42 MA's), (2, 6741), (3, 6759), (Start: 4 @6774 has 1 MA's), (10, 6846), (11, 6855), (12, 6861), (13, 6879), (16, 6903), (17, 6909), (18, 6915), (20, 6942), (21, 6948), (23, 6969), (24, 6972), (25, 6984), (26, 6999), (27, 7002), (28, 7032), (29, 7035), (31, 7059), (33, 7080),

Gene: Aquarius_10 Start: 6729, Stop: 7100, Start Num: 1

Candidate Starts for Aquarius_10:

(Start: 1 @6729 has 42 MA's), (2, 6735), (Start: 4 @6768 has 1 MA's), (8, 6807), (9, 6816), (10, 6840), (11, 6849), (12, 6855), (13, 6873), (15, 6891), (16, 6897), (17, 6903), (18, 6909), (19, 6921), (20, 6936), (25, 6978), (26, 6993), (27, 6996), (28, 7026), (30, 7032), (31, 7053),

Gene: Attacne_10 Start: 6740, Stop: 7111, Start Num: 1

Candidate Starts for Attacne_10:

(Start: 1 @6740 has 42 MA's), (3, 6764), (Start: 4 @6779 has 1 MA's), (9, 6827), (11, 6860), (13, 6884), (16, 6908), (17, 6914), (18, 6920), (19, 6932), (20, 6947), (21, 6953), (23, 6974), (26, 7004), (27, 7007), (28, 7037), (31, 7064),

Gene: BruceLethal_10 Start: 6728, Stop: 7099, Start Num: 1

Candidate Starts for BruceLethal_10:

(Start: 1 @6728 has 42 MA's), (3, 6752), (Start: 4 @6767 has 1 MA's), (10, 6839), (11, 6848), (12, 6854), (13, 6872), (15, 6890), (16, 6896), (17, 6902), (18, 6908), (20, 6935), (21, 6941), (23, 6962), (25, 6977), (26, 6992), (27, 6995), (28, 7025), (31, 7052), (33, 7073),

Gene: Cota_10 Start: 6747, Stop: 7118, Start Num: 1

Candidate Starts for Cota_10:

(Start: 1 @6747 has 42 MA's), (3, 6771), (Start: 4 @6786 has 1 MA's), (9, 6834), (13, 6891), (16, 6915), (17, 6921), (18, 6927), (20, 6954), (21, 6960), (23, 6981), (26, 7011), (27, 7014), (28, 7044), (31, 7071),

Gene: DrParker_10 Start: 6754, Stop: 7125, Start Num: 1

Candidate Starts for DrParker_10:

(Start: 1 @6754 has 42 MA's), (3, 6778), (Start: 4 @6793 has 1 MA's), (8, 6832), (9, 6841), (11, 6874), (13, 6898), (16, 6922), (17, 6928), (18, 6934), (19, 6946), (20, 6961), (23, 6988), (25, 7003), (26, 7018), (27, 7021), (28, 7051), (31, 7078),

Gene: Enochoraptor_10 Start: 6750, Stop: 7121, Start Num: 1

Candidate Starts for Enochoraptor_10:

(Start: 1 @6750 has 42 MA's), (Start: 4 @6789 has 1 MA's), (8, 6828), (9, 6837), (11, 6870), (12, 6876), (13, 6894), (14, 6900), (16, 6918), (17, 6924), (18, 6930), (20, 6957), (21, 6963), (26, 7014), (27, 7017), (28, 7047), (31, 7074),

Gene: Enoki_10 Start: 6735, Stop: 7106, Start Num: 1

Candidate Starts for Enoki_10:

(Start: 1 @6735 has 42 MA's), (3, 6759), (Start: 4 @6774 has 1 MA's), (8, 6813), (9, 6822), (10, 6846), (11, 6855), (13, 6879), (16, 6903), (17, 6909), (18, 6915), (19, 6927), (20, 6942), (21, 6948), (23, 6969), (26, 6999), (27, 7002), (28, 7032), (29, 7035), (31, 7059), (33, 7080),

Gene: Keiki_10 Start: 6747, Stop: 7118, Start Num: 1

Candidate Starts for Keiki_10:

(Start: 1 @6747 has 42 MA's), (3, 6771), (Start: 4 @6786 has 1 MA's), (9, 6834), (13, 6891), (16, 6915), (17, 6921), (18, 6927), (20, 6954), (21, 6960), (23, 6981), (26, 7011), (27, 7014), (28, 7044), (31, 7071),

Gene: Kubed_10 Start: 6737, Stop: 7108, Start Num: 1

Candidate Starts for Kubed_10:

(Start: 1 @6737 has 42 MA's), (Start: 4 @6776 has 1 MA's), (9, 6824), (12, 6863), (13, 6881), (14, 6887), (16, 6905), (17, 6911), (20, 6944), (23, 6971), (25, 6986), (26, 7001), (27, 7004), (28, 7034), (31, 7061),

Gene: Lauchelly_10 Start: 6732, Stop: 7103, Start Num: 1

Candidate Starts for Lauchelly_10:

(Start: 1 @6732 has 42 MA's), (5, 6774), (9, 6819), (11, 6852), (12, 6858), (13, 6876), (15, 6894), (17, 6906), (20, 6939), (25, 6981), (26, 6996), (27, 6999), (29, 7032), (30, 7035), (31, 7056),

Gene: Leviosa_10 Start: 6753, Stop: 7124, Start Num: 1

Candidate Starts for Leviosa_10:

(Start: 1 @6753 has 42 MA's), (3, 6777), (Start: 4 @6792 has 1 MA's), (10, 6864), (11, 6873), (12, 6879), (13, 6897), (16, 6921), (17, 6927), (18, 6933), (20, 6960), (21, 6966), (23, 6987), (25, 7002), (26, 7017), (27, 7020), (28, 7050), (29, 7053), (31, 7077),

Gene: LilBandit_10 Start: 6737, Stop: 7108, Start Num: 1

Candidate Starts for LilBandit_10:

(Start: 1 @6737 has 42 MA's), (Start: 4 @6776 has 1 MA's), (9, 6824), (11, 6857), (12, 6863), (13, 6881), (15, 6899), (16, 6905), (17, 6911), (18, 6917), (19, 6929), (20, 6944), (22, 6962), (25, 6986), (26, 7001), (27, 7004), (29, 7037), (31, 7061),

Gene: MEAK_10 Start: 6739, Stop: 7110, Start Num: 1

Candidate Starts for MEAK_10:

(Start: 1 @6739 has 42 MA's), (Start: 4 @6778 has 1 MA's), (8, 6817), (9, 6826), (11, 6859), (13, 6883), (16, 6907), (17, 6913), (18, 6919), (20, 6946), (21, 6952), (23, 6973), (26, 7003), (27, 7006), (28, 7036), (31, 7063),

Gene: Moyashi_10 Start: 6757, Stop: 7128, Start Num: 1

Candidate Starts for Moyashi_10:

(Start: 1 @6757 has 42 MA's), (3, 6781), (Start: 4 @6796 has 1 MA's), (9, 6844), (11, 6877), (12, 6883), (13, 6901), (14, 6907), (15, 6919), (16, 6925), (17, 6931), (18, 6937), (20, 6964), (21, 6970), (25, 7006), (26, 7021), (27, 7024), (28, 7054), (31, 7081),

Gene: MrAK_10 Start: 6766, Stop: 7137, Start Num: 1

Candidate Starts for MrAK_10:

(Start: 1 @6766 has 42 MA's), (3, 6790), (Start: 4 @6805 has 1 MA's), (9, 6853), (11, 6886), (12, 6892), (13, 6910), (16, 6934), (17, 6940), (18, 6946), (19, 6958), (20, 6973), (21, 6979), (23, 7000), (25, 7015), (26, 7030), (27, 7033), (28, 7063), (31, 7090), (33, 7111),

Gene: Ouroboros_10 Start: 6740, Stop: 7111, Start Num: 1

Candidate Starts for Ouroboros_10:

(Start: 1 @6740 has 42 MA's), (3, 6764), (Start: 4 @6779 has 1 MA's), (9, 6827), (12, 6866), (13, 6884), (16, 6908), (17, 6914), (18, 6920), (20, 6947), (21, 6953), (23, 6974), (25, 6989), (26, 7004), (27, 7007), (28, 7037), (29, 7040), (31, 7064), (33, 7085),

Gene: P1.1_10 Start: 6740, Stop: 7111, Start Num: 1

Candidate Starts for P1.1_10:

(Start: 1 @6740 has 42 MA's), (Start: 4 @6779 has 1 MA's), (8, 6818), (9, 6827), (11, 6860), (12, 6866), (13, 6884), (14, 6890), (15, 6902), (16, 6908), (17, 6914), (18, 6920), (19, 6932), (20, 6947), (22, 6965), (25, 6989), (26, 7004), (27, 7007), (28, 7037), (31, 7064),

Gene: P100.1_10 Start: 6730, Stop: 7101, Start Num: 1

Candidate Starts for P100.1_10:

(Start: 1 @6730 has 42 MA's), (Start: 4 @6769 has 1 MA's), (9, 6817), (10, 6841), (11, 6850), (12, 6856), (13, 6874), (14, 6880), (15, 6892), (16, 6898), (17, 6904), (18, 6910), (19, 6922), (20, 6937), (23, 6964), (25, 6979), (26, 6994), (27, 6997), (28, 7027), (31, 7054),

Gene: P100A_10 Start: 6751, Stop: 7122, Start Num: 1

Candidate Starts for P100A_10:

(Start: 1 @6751 has 42 MA's), (3, 6775), (Start: 4 @6790 has 1 MA's), (11, 6871), (12, 6877), (13, 6895), (15, 6913), (16, 6919), (17, 6925), (18, 6931), (20, 6958), (21, 6964), (23, 6985), (25, 7000), (26, 7015), (27, 7018), (28, 7048), (30, 7054), (31, 7075),

Gene: P100D_10 Start: 6734, Stop: 7105, Start Num: 1

Candidate Starts for P100D_10:

(Start: 1 @6734 has 42 MA's), (Start: 4 @6773 has 1 MA's), (5, 6776), (8, 6812), (9, 6821), (11, 6854), (12, 6860), (13, 6878), (16, 6902), (17, 6908), (18, 6914), (20, 6941), (23, 6968), (26, 6998), (27,

7001), (28, 7031), (31, 7058),

Gene: P101A_10 Start: 6733, Stop: 7104, Start Num: 1

Candidate Starts for P101A_10:

(Start: 1 @6733 has 42 MA's), (Start: 4 @6772 has 1 MA's), (9, 6820), (10, 6844), (11, 6853), (12, 6859), (13, 6877), (14, 6883), (15, 6895), (16, 6901), (17, 6907), (18, 6913), (19, 6925), (20, 6940), (23, 6967), (26, 6997), (27, 7000), (28, 7030), (31, 7057),

Gene: P104A_10 Start: 6735, Stop: 7106, Start Num: 1

Candidate Starts for P104A_10:

(Start: 1 @6735 has 42 MA's), (3, 6759), (Start: 4 @6774 has 1 MA's), (9, 6822), (11, 6855), (12, 6861), (13, 6879), (15, 6897), (16, 6903), (17, 6909), (18, 6915), (20, 6942), (21, 6948), (26, 6999), (27, 7002), (28, 7032), (31, 7059),

Gene: P104B_10 Start: 6739, Stop: 7110, Start Num: 1

Candidate Starts for P104B_10:

(Start: 1 @6739 has 42 MA's), (8, 6817), (9, 6826), (10, 6850), (11, 6859), (12, 6865), (13, 6883), (14, 6889), (15, 6901), (16, 6907), (17, 6913), (18, 6919), (19, 6931), (20, 6946), (22, 6964), (25, 6988), (26, 7003), (27, 7006), (28, 7036), (31, 7063),

Gene: P105_10 Start: 6729, Stop: 7100, Start Num: 1

Candidate Starts for P105_10:

(Start: 1 @6729 has 42 MA's), (3, 6753), (Start: 4 @6768 has 1 MA's), (9, 6816), (11, 6849), (13, 6873), (15, 6891), (16, 6897), (17, 6903), (18, 6909), (19, 6921), (20, 6936), (21, 6942), (23, 6963), (25, 6978), (26, 6993), (27, 6996), (28, 7026), (31, 7053),

Gene: P106A_10 Start: 6757, Stop: 7128, Start Num: 1

Candidate Starts for P106A_10:

(Start: 1 @6757 has 42 MA's), (Start: 4 @6796 has 1 MA's), (9, 6844), (11, 6877), (12, 6883), (13, 6901), (16, 6925), (17, 6931), (18, 6937), (20, 6964), (21, 6970), (23, 6991), (25, 7006), (26, 7021), (27, 7024), (28, 7054), (31, 7081),

Gene: P106C_10 Start: 6757, Stop: 7128, Start Num: 1

Candidate Starts for P106C_10:

(Start: 1 @6757 has 42 MA's), (Start: 4 @6796 has 1 MA's), (9, 6844), (11, 6877), (12, 6883), (13, 6901), (16, 6925), (17, 6931), (18, 6937), (20, 6964), (21, 6970), (23, 6991), (25, 7006), (26, 7021), (27, 7024), (28, 7054), (31, 7081),

Gene: P106I_10 Start: 6757, Stop: 7128, Start Num: 1

Candidate Starts for P106I_10:

(Start: 1 @6757 has 42 MA's), (Start: 4 @6796 has 1 MA's), (9, 6844), (11, 6877), (12, 6883), (13, 6901), (16, 6925), (17, 6931), (18, 6937), (20, 6964), (21, 6970), (23, 6991), (25, 7006), (26, 7021), (27, 7024), (28, 7054), (31, 7081),

Gene: P106L_10 Start: 6757, Stop: 7128, Start Num: 1

Candidate Starts for P106L_10:

(Start: 1 @6757 has 42 MA's), (Start: 4 @6796 has 1 MA's), (9, 6844), (11, 6877), (12, 6883), (13, 6901), (16, 6925), (17, 6931), (18, 6937), (20, 6964), (21, 6970), (23, 6991), (25, 7006), (26, 7021), (27, 7024), (28, 7054), (31, 7081),

Gene: P106M_10 Start: 6757, Stop: 7128, Start Num: 1

Candidate Starts for P106M_10:

(Start: 1 @6757 has 42 MA's), (Start: 4 @6796 has 1 MA's), (9, 6844), (11, 6877), (12, 6883), (13, 6901), (16, 6925), (17, 6931), (18, 6937), (20, 6964), (21, 6970), (23, 6991), (25, 7006), (26, 7021), (27, 7024), (28, 7054), (31, 7081),

Gene: P107A_10 Start: 6743, Stop: 7114, Start Num: 1

Candidate Starts for P107A_10:

(Start: 1 @6743 has 42 MA's), (Start: 4 @6782 has 1 MA's), (9, 6830), (10, 6854), (11, 6863), (13, 6887), (15, 6905), (16, 6911), (17, 6917), (20, 6950), (21, 6956), (25, 6992), (27, 7010), (28, 7040), (30, 7046), (31, 7067), (33, 7088),

Gene: P107C_10 Start: 6739, Stop: 7110, Start Num: 1

Candidate Starts for P107C_10:

(Start: 1 @6739 has 42 MA's), (Start: 4 @6778 has 1 MA's), (8, 6817), (9, 6826), (11, 6859), (12, 6865), (13, 6883), (14, 6889), (16, 6907), (17, 6913), (18, 6919), (20, 6946), (21, 6952), (26, 7003), (27, 7006), (28, 7036), (31, 7063),

Gene: P108C_10 Start: 6743, Stop: 7114, Start Num: 1

Candidate Starts for P108C_10:

(Start: 1 @6743 has 42 MA's), (Start: 4 @6782 has 1 MA's), (8, 6821), (9, 6830), (11, 6863), (12, 6869), (13, 6887), (14, 6893), (16, 6911), (17, 6917), (18, 6923), (20, 6950), (21, 6956), (26, 7007), (27, 7010), (28, 7040), (31, 7067),

Gene: P14.4_10 Start: 6773, Stop: 7105, Start Num: 4

Candidate Starts for P14.4_10:

(Start: 1 @6734 has 42 MA's), (Start: 4 @6773 has 1 MA's), (8, 6812), (9, 6821), (11, 6854), (12, 6860), (13, 6878), (15, 6896), (16, 6902), (17, 6908), (18, 6914), (19, 6926), (20, 6941), (21, 6947), (23, 6968), (25, 6983), (26, 6998), (27, 7001), (29, 7034), (30, 7037), (31, 7058),

Gene: P9.1_10 Start: 6732, Stop: 7103, Start Num: 1

Candidate Starts for P9.1_10:

(Start: 1 @6732 has 42 MA's), (Start: 4 @6771 has 1 MA's), (9, 6819), (11, 6852), (13, 6876), (16, 6900), (17, 6906), (18, 6912), (20, 6939), (21, 6945), (25, 6981), (26, 6996), (27, 6999), (28, 7029), (31, 7056),

Gene: PA6_10 Start: 6766, Stop: 7113, Start Num: 3

Candidate Starts for PA6_10:

(Start: 1 @6742 has 42 MA's), (3, 6766), (Start: 4 @6781 has 1 MA's), (8, 6820), (9, 6829), (11, 6862), (12, 6868), (13, 6886), (15, 6904), (16, 6910), (17, 6916), (18, 6922), (19, 6934), (20, 6949), (25, 6991), (26, 7006), (27, 7009), (28, 7039), (31, 7066),

Gene: PAD20_10 Start: 6740, Stop: 7111, Start Num: 1

Candidate Starts for PAD20_10:

(Start: 1 @6740 has 42 MA's), (Start: 4 @6779 has 1 MA's), (8, 6818), (9, 6827), (11, 6860), (13, 6884), (14, 6890), (16, 6908), (17, 6914), (18, 6920), (20, 6947), (22, 6965), (26, 7004), (27, 7007), (28, 7037), (31, 7064),

Gene: PAS50_10 Start: 6737, Stop: 7108, Start Num: 1

Candidate Starts for PAS50_10:

(Start: 1 @6737 has 42 MA's), (Start: 4 @6776 has 1 MA's), (8, 6815), (9, 6824), (11, 6857), (13, 6881), (16, 6905), (17, 6911), (18, 6917), (20, 6944), (25, 6986), (26, 7001), (27, 7004), (28, 7034), (31, 7061),

Gene: PHL010M04_10 Start: 6731, Stop: 7102, Start Num: 1

Candidate Starts for PHL010M04_10:

(Start: 1 @6731 has 42 MA's), (3, 6755), (Start: 4 @6770 has 1 MA's), (9, 6818), (12, 6857), (13, 6875), (17, 6905), (18, 6911), (20, 6938), (21, 6944), (23, 6965), (26, 6995), (27, 6998), (28, 7028), (29, 7031), (31, 7055), (33, 7076),

Gene: PHL037M02_10 Start: 6737, Stop: 7108, Start Num: 1

Candidate Starts for PHL037M02_10:

(Start: 1 @6737 has 42 MA's), (Start: 4 @6776 has 1 MA's), (10, 6848), (11, 6857), (12, 6863), (13, 6881), (16, 6905), (17, 6911), (18, 6917), (19, 6929), (20, 6944), (21, 6950), (23, 6971), (26, 7001), (27, 7004), (28, 7034), (29, 7037), (31, 7061), (33, 7082),

Gene: PHL060L00_10 Start: 6730, Stop: 7101, Start Num: 1

Candidate Starts for PHL060L00_10:

(Start: 1 @6730 has 42 MA's), (3, 6754), (Start: 4 @6769 has 1 MA's), (9, 6817), (11, 6850), (12, 6856), (13, 6874), (15, 6892), (16, 6898), (17, 6904), (18, 6910), (20, 6937), (21, 6943), (23, 6964), (25, 6979), (26, 6994), (27, 6997), (28, 7027), (31, 7054),

Gene: PHL067M10_10 Start: 6734, Stop: 7105, Start Num: 1

Candidate Starts for PHL067M10_10:

(Start: 1 @6734 has 42 MA's), (3, 6758), (Start: 4 @6773 has 1 MA's), (9, 6821), (11, 6854), (12, 6860), (13, 6878), (15, 6896), (16, 6902), (17, 6908), (18, 6914), (20, 6941), (25, 6983), (26, 6998), (27, 7001), (28, 7031), (31, 7058),

Gene: PHL071N05_10 Start: 6736, Stop: 7107, Start Num: 1

Candidate Starts for PHL071N05_10:

(Start: 1 @6736 has 42 MA's), (3, 6760), (Start: 4 @6775 has 1 MA's), (9, 6823), (11, 6856), (13, 6880), (14, 6886), (16, 6904), (17, 6910), (18, 6916), (20, 6943), (22, 6961), (23, 6970), (25, 6985), (26, 7000), (27, 7003), (31, 7060),

Gene: PHL111M01_10 Start: 6740, Stop: 7111, Start Num: 1

Candidate Starts for PHL111M01_10:

(Start: 1 @6740 has 42 MA's), (Start: 4 @6779 has 1 MA's), (5, 6782), (9, 6827), (11, 6860), (12, 6866), (13, 6884), (14, 6890), (15, 6902), (16, 6908), (17, 6914), (18, 6920), (20, 6947), (21, 6953), (23, 6974), (25, 6989), (26, 7004), (27, 7007), (28, 7037), (31, 7064),

Gene: PHL112N00_10 Start: 6740, Stop: 7111, Start Num: 1

Candidate Starts for PHL112N00_10:

(Start: 1 @6740 has 42 MA's), (Start: 4 @6779 has 1 MA's), (9, 6827), (12, 6866), (13, 6884), (14, 6890), (16, 6908), (17, 6914), (20, 6947), (24, 6977), (25, 6989), (27, 7007), (28, 7037), (31, 7064),

Gene: PHL113M01_10 Start: 6740, Stop: 7111, Start Num: 1

Candidate Starts for PHL113M01_10:

(Start: 1 @6740 has 42 MA's), (3, 6764), (Start: 4 @6779 has 1 MA's), (8, 6818), (9, 6827), (10, 6851), (11, 6860), (12, 6866), (13, 6884), (15, 6902), (16, 6908), (17, 6914), (18, 6920), (19, 6932), (20, 6947), (21, 6953), (26, 7004), (27, 7007), (28, 7037), (31, 7064), (33, 7085),

Gene: PHL114L00_10 Start: 6739, Stop: 7110, Start Num: 1

Candidate Starts for PHL114L00_10:

(Start: 1 @6739 has 42 MA's), (2, 6745), (3, 6763), (Start: 4 @6778 has 1 MA's), (7, 6808), (11, 6859), (13, 6883), (16, 6907), (17, 6913), (18, 6919), (19, 6931), (20, 6946), (21, 6952), (23, 6973), (25, 6988), (26, 7003), (27, 7006), (28, 7036), (29, 7039), (30, 7042), (31, 7063), (32, 7072), (33, 7084),

Gene: Pirate_10 Start: 6732, Stop: 7103, Start Num: 1

Candidate Starts for Pirate_10:

(Start: 1 @6732 has 42 MA's), (Start: 4 @6771 has 1 MA's), (8, 6810), (9, 6819), (11, 6852), (12, 6858), (13, 6876), (14, 6882), (16, 6900), (17, 6906), (18, 6912), (20, 6939), (21, 6945), (26, 6996), (27, 6999), (28, 7029), (31, 7056),

Gene: Procrass1_10 Start: 6739, Stop: 7110, Start Num: 1

Candidate Starts for Procrass1_10:

(Start: 1 @6739 has 42 MA's), (Start: 4 @6778 has 1 MA's), (8, 6817), (9, 6826), (11, 6859), (12, 6865), (13, 6883), (16, 6907), (17, 6913), (18, 6919), (19, 6931), (20, 6946), (21, 6952), (23, 6973), (26, 7003), (27, 7006), (31, 7063),

Gene: QueenBey_10 Start: 6733, Stop: 7104, Start Num: 1

Candidate Starts for QueenBey_10:

(Start: 1 @6733 has 42 MA's), (11, 6853), (12, 6859), (13, 6877), (14, 6883), (16, 6901), (17, 6907), (18, 6913), (20, 6940), (23, 6967), (25, 6982), (26, 6997), (27, 7000), (28, 7030), (29, 7033), (31, 7057), (33, 7078),

Gene: Rileysaurus_10 Start: 6728, Stop: 7099, Start Num: 1

Candidate Starts for Rileysaurus_10:

(Start: 1 @6728 has 42 MA's), (3, 6752), (Start: 4 @6767 has 1 MA's), (9, 6815), (10, 6839), (13, 6872), (16, 6896), (17, 6902), (18, 6908), (19, 6920), (20, 6935), (23, 6962), (25, 6977), (27, 6995), (28, 7025), (30, 7031), (31, 7052),

Gene: SKKY_10 Start: 6764, Stop: 7135, Start Num: 1

Candidate Starts for SKKY_10:

(Start: 1 @6764 has 42 MA's), (Start: 4 @6803 has 1 MA's), (9, 6851), (11, 6884), (13, 6908), (15, 6926), (16, 6932), (17, 6938), (18, 6944), (20, 6971), (21, 6977), (23, 6998), (25, 7013), (26, 7028), (27, 7031), (28, 7061), (31, 7088),

Gene: Solid_10 Start: 6740, Stop: 7111, Start Num: 1

Candidate Starts for Solid_10:

(Start: 1 @6740 has 42 MA's), (3, 6764), (Start: 4 @6779 has 1 MA's), (9, 6827), (11, 6860), (13, 6884), (15, 6902), (16, 6908), (17, 6914), (18, 6920), (20, 6947), (21, 6953), (22, 6965), (25, 6989), (26, 7004), (27, 7007), (28, 7037), (31, 7064),

Gene: Stormborn_10 Start: 6735, Stop: 7106, Start Num: 1

Candidate Starts for Stormborn_10:

(Start: 1 @6735 has 42 MA's), (3, 6759), (Start: 4 @6774 has 1 MA's), (6, 6795), (9, 6822), (12, 6861), (13, 6879), (17, 6909), (18, 6915), (20, 6942), (21, 6948), (22, 6960), (23, 6969), (25, 6984), (26, 6999), (27, 7002), (28, 7032), (29, 7035), (31, 7059), (33, 7080),

Gene: Supernova_10 Start: 6732, Stop: 7103, Start Num: 1

Candidate Starts for Supernova_10:

(Start: 1 @6732 has 42 MA's), (Start: 4 @6771 has 1 MA's), (9, 6819), (12, 6858), (14, 6882), (16, 6900), (17, 6906), (18, 6912), (20, 6939), (21, 6945), (26, 6996), (27, 6999), (28, 7029), (31, 7056), (33, 7077),

Gene: Wizzo_10 Start: 6744, Stop: 7115, Start Num: 1

Candidate Starts for Wizzo_10:

(Start: 1 @6744 has 42 MA's), (5, 6786), (8, 6822), (9, 6831), (11, 6864), (12, 6870), (14, 6894), (16, 6912), (17, 6918), (18, 6924), (20, 6951), (21, 6957), (26, 7008), (27, 7011), (28, 7041), (31, 7068),