Cover letter for Mycobacteriophage **Ebony** identified at Queens University of Charlotte

* Region between 1-367bp. Auto-annotation did not identify any genes. This is consistent with Mulciber and Jabith as is evident by Phamerator maps. Additionally, GeneMark does not show any coding potential.
* Gene Added- 2395-2658 (for). No coding potential, however, the BLASTx indicated protein function HNH endonuclease. Consistent with Mulciber and Jabith.
* Translational Frameshift. (16405-17213). -2 frameshift. Consistent with Mulciber and Jabith and codes for a tail assembly chaperone.
* Gene Added- 38059-38448 (rev). Coding potential present, BLAST indicates 1:1 alignment with Jabith DNA primase.
* Gene deleted – 39876-39956 (for). Does not align with other genes in the A11 subcluster. It is a forward gene in a group of reverse genes. Coding potential does exit in the -1 frame. Reversing the gene was examined, however, did not align with any other genes.
* Gene Added -42076-42225 (rev). Coding potential is low, however, blast search indicates 1:1 alignment with Jabith gp71 which is a DNA binding protein.
* Gene deleted – 47388-47444 (rev). Only 57 bp long. No Coding potential. NCBI and HHpred produced no hits.
* Gene deleted – 47441-47539 (rev). Only 99 bp long. No coding potential. NCBI and HHpred produced no hits.

\*Deleting the above two genes creates 185 bp gap. This Is not consistent with Mulciber or Jabith, but leaving as two small genes was not consistent either.

* The following large gaps are consistent with A11 finalized annotations (Mulciber, Et2Brutus, Jabith) and there is no coding potential or gene function has been identified: 16296-16405, 25420-25582, 25946-26075, 34695-34871, 44933-45119