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2022 SEA Symposium Abstract

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BenitoAntonio, Hankly, and Inked: Three Novel Arthrobacter phage

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To date, students at Montclair State University have isolated 217 phage using *Mycobacterium smegmatis*, and *Arthrobacter sp.* as hosts. Of these 217 phage, 22 have been sequenced and 17 have been deposited in GenBank (with two currently in review). During the spring of 2022, MSU students are working to annotate the genomes of three novel *Arthrobacter* phage: BenitoAntonio, Hankly, and Inked. BenitoAntonio is a cluster AM phage with approximately 98 coding genes, Hankly is a cluster AM phage with approximately 102 coding genes, and Inked is a cluster AU phage with approximately 91 coding genes. Pairwise alignments between genomes shows a 51% identity between BenitoAntonio and Inked, a 49.7% identity between Hankly and Inked, and an 85.7% identity between BenitoAntonio and Hankly. The results of the pairwise alignments are not surprising given BenitoAntonio and Hankly are both in cluster AM and Inked is in cluster AU. Work on these annotations is ongoing and the students at MSU anticipate their annotations to be complete by May 1, 2022.