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MiniBagel and Mooshroom: Two Novel Arthrobacter phage

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To date, students at Montclair State University have isolated 283 phage using Mycobacterium smegmatis, and Arthrobacter sp. as hosts. Of these 283 phage, 28 have been sequenced and 22 have been deposited in GenBank (with three currently in review). During the spring of 2024, MSU students are working to annotate the genomes of two novel Arthrobacter phage: MiniBagel and Mooshroom. MiniBagel is a cluster AM phage with approximately 100 coding genes, and Mooshroom is a cluster AU phage with approximately 96 coding genes. Surprisingly, there were approximately 15 genes in each genome that were not called by DNA Master in the initial auto-annotation that had to be added manually. Pairwise alignments between genomes shows a 54.09% identity between MiniBagel and Mooshroom. Work on these annotations is ongoing and the students at MSU anticipate their annotations to be complete by May 1, 2023.