CONSIDER FOR TALK

8th Annual SEA-PHAGES Symposium Abstract

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Isolation and Annotation of Mycobacteriophages belonging to A, K and N Clusters

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Mycobacteriophages are viruses that infect mycobacterial hosts, including Mycobacterium tuberculosis and Mycobacterium smegmatis.The aim of this project was to isolate and characterize unique mycobacteriophages from the environment, using Mycobacterium smegmatis as the host. To obtain a unique mycobacteriophage, the project involved collecting a soil sample, isolating the phage from the sample, purifying the phage population, and characterizing the phage and lastly annotating the phage’s genome. Several students participated in the project based lab offered through the General Biology lab I course (Biol 1101) and General Biology Lab II course (Biol 1102) at the University of Houston-Downtown (UHD). Of the 12 phages isolated in fall 2015, three phages, namely Kerberos, TBond007, and PhancyPhin were sequenced and annotated during the Spring Semester of 2016. During the annotation process, Mycobacteriophages PhancyPhin appeared to be similar to the Cluster N phages and found the most similarities with phages Michellemybelle, Redi, Butters and Charlie; whereas Tbond007, in the K cluster has highest homology with phages Pixie, Shedlockholmes and MacandCheese, and Kerberos, a Cluster A phage had similarities with phages Chy5, Ladybird, Odin, Sweetiepie and D29.