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2022 SEA Symposium Abstract

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Genomic Annotation of Bacteriophages Clayda5, GShelby23, Santhid, and Wrigley

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We annotated the genomes of four recently discovered Actinobacteriophages. Clayda5 and GShelby were isolated on Microbacterium foliorum NRRL B-24224. Clayda5 is a lytic, cluster EB phage, one of only 47 discovered to date. It has 10 base pair 3’ sticky overhanging ends and a GC content is 67.2%. It has 70 protein-coding genes and two tRNA genes in its 39,894 bp genome. Clayda5 was purified from soil collected in Hull, IA. GShelby23 was isolated from soil collected in Storm Lake, IA. It is a cluster EM phage, one of only six discovered to date. Its genome is circularly permuted and 53,603 bp long. Its GC content is 64.8%. Santhid and Wrigley are phages that infect Gordonia terrae 3612. Santhid is a cluster DY phage, one of only five discovered to date. It was isolated from soil collected in Orange City, IA. Its genome is 39,295 bp long and includes 60 protein-coding genes. Its GC content is 67.7% and has 10 base pair 3’ sticky overhanging ends. Wrigley was isolated using an enrichment protocol from soil collected in Johnston, IA. It is a cluster CY phage, one of only 17 discovered to date. It is a temperate phage whose genome is 51,878 bp long and includes 81 protein-coding genes. It has 10 base pair 3’ sticky overhanging ends and a GC content of 66.3%.