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Isolation and Characterization of Microbacteriophages BirdInFrench and Wilca

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BirdInFrench and Wilca are phages with siphovirus morphology that belong to cluster EG and were isolated using Microbacterium foliorum as the isolation host. They were isolated from soil samples collected from the UMass Amherst campus using a direct isolation method. Then, they were purified twice by picking well-isolated plaques, amplified to the highest titer and flooded to collect the lysate which was examined by an electron microscopy. Both the phages had bullseye plaque formation and siphovirius morphology with comparable capsid diameters and heights. DNA was extracted from both phages and their genomes were sequenced. PECAAN was used to analyze all the genes in the phage genome to identify start positions, functions, and any tRNA genes. Phamerator was used to compare the entire genome sequence of each phage along with NCBI Blast to identify that the two phages were nearly identical based on their functions and placement along the sequence. Due to the high similarity between the phages, it could be assumed that they were the same phage or nearly identical.