NORMALIZATION OF VIRAL LEVELS IN WASTEWATER THROUGH THE USE OF HUMAN BIOMARKERS. **Jordan Rensing**[1], Stephen Brown[1], Simon van der Plas[1], Sarah Jane Payne[2], Hridaynath Bhattacharjee[2], Julie Jia[2], [1]Queen's University, Department of Chemistry, 90 Bader Lane, Kingston, ON K7L 3N6, Canada; [2]Queen's University, Department of Civil Engineering, Ellis Hall, 58 University Avenue, Kingston, ON K7L 3N9, Canada. (17jer2@queensu.ca)

Wastewater based epidemiology is used to monitor disease levels in the community, particularly SARS-CoV-2, without subjecting people to mass testing. However, normalization is required to ensure more accurate data, correcting for variation in fecal content in sewage due to dilution. Identifying the best biomarker to use for normalization is therefore important to get the best results. For this purpose, this study looks at a few biological and chemical biomarkers and evaluates their use as normalization markers in comparison to the existing pepper mild mottle virus (PMMoV) biomarker, currently used in many wastewater monitoring programs. Initially, E coli was tested compared to PMMoV, with poor performance. Currently, we are testing chemical markers, including caffeine and cholesterol, to determine if they are more effective than PMMoV.