

ANALYSIS OF AN ACTIVE COMPONENT IN THE ESSENTIAL OIL OF NUTMEG- THE IDENTIFICATION, QUANTITATION, AND BIOLOGICAL ACTIVITY OF ISOEUGENOL. *Ahmed Ibrahim, Jacquelyn Wilson, and Todd Pagano**, Department of Science and Mathematics, NTID@RIT, ami4544@rit.edu, tepnts@rit.edu

Isoeugenol, an active component of the essential oil of nutmeg, was identified, quantified, and biologically tested. High Performance Liquid Chromatography (HPLC), Gas Chromatography (GC), and Fourier Transform Infrared Spectroscopy (FTIR) were used to identify and quantify isoeugenol in the essential oil of nutmeg. Isoeugenol was determined to compose approximately 1% of the total essential oil profile. Isoeugenol was also found to have antibiotic properties, as its biological activity was assessed in a sensitivity test to the bacteria, *Bacillus cereus*. Planned future work into the analytical characterization of the essential oil of nutmeg, its sensitivity tests to other bacteria, and its applicability as a natural pesticide will be addressed. There will be a discussion as to how the results and future experiments may support speculative insights into the historical impact of nutmeg as a deterrent against the black plague.