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Thermo-chemical Stability Analysis of Phytoncide Components Using Computational and Biochemical Simulations HYUNJIN CHANG, ISABELLA BAEK, RICHARD KYUNG, Choice Research Group — Sophoraflavanone molecule is a volatile phytoncide that can be released into the atmosphere. Scientific efforts have focused on finding either naturally-made compounds that can be used as potential for treatment of chronic inflammatory disorders such as rheumatoid arthritis. Also it has been found to enhance the effect of currently used antibiotics by affecting the growth of antibiotic-resistant bacteria. Due to an its antibiotic-resistant bacteria, scientific efforts have focused on finding either naturally-made or genetically modified compounds that can treat and or prevent these harmful and sometimes deadly bacteria. Sophoraflavanone G, due to its use as a phytoncide, has been found to impact the growth of antibiotic-resistant bacteria and enhance the effect of currently used antibiotics. Since the antimicrobial potency and range of phytoncides vary greatly among species, bioactivity of antioxidant components of extracts from Sophora flavescens was studied. In this paper, the antioxidant activity of S. flavescens with different origins was evaluated by a computational chemical software which measures the optimized geometries and chemical properties of the modeled structures by using theoretical values and considering the molecules atomic properties.

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