

THE ION EFFECT OF AGGREGATING AGENTS ON SERS ENHANCEMENT OF COTININE AND TRANS-3'-HYDROXYCOTININE. Sungyub Han, Xiao Li, Department of Chemistry, University of South Florida, 4202 E. Fowler Ave CHE205, Tampa, FL, 33620.

The effect of various aggregating agents on SERS detection of cotinine (COT) and trans-3'-hydroxycotinine (3HC) were investigated including LiCl, LiBr, NaCl, NaI, KCl, KBr, MgCl₂, MgBr₂, CaCl₂, and CaBr₂. Despite of the similar structure of COT and 3HC, their SERS activities are highly different. While an acidic environment (pH = 3) is optimal for the detection of 3HC, a neutral condition is best for that of COT. Interestingly, the SERS enhancement from various aggregating agent also depends on the target molecules. It was observed that MgCl₂ provides the highest SERS enhancement for COT while NaBr was the best aggregating agent for 3HC.