

Instrumental Advances in the PLOT-Cryoadsorption Method of Vapor Characterization

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The use of purge and trap methods for sampling volatile organic compounds prior to chromatographic analysis is a mature technology. Application to low volatility compounds has been far less facile and sensitive. The development of PLOT-cryoadsorption in 2006 resulted in more facile characterization of vapor samples, with applications in explosives detection, food safety, cadaver detection, pyrolysis products and arson fire debris characterization. These laboratory applications were followed by the development of a field portable instrument that has been used for environmental sampling. Further advances of PLOT-cryo technology will require the miniaturization of the components, and the introduction of an in situ solvent reservoir. In this talk, we introduce the first in a series of micro scaled, disposable PLOT-cryo wafers that feature on board Peltier cooling, an on board solvent reservoir, and an injection means capable of delivering an eluted sample to an analytical device.