BASIC SCIENCE

INTERNATIONAL WILDLIFE SYMPOSIUM
"Conserving Sumatran Wildlife Heritage for Sustainable Livelihood"
Bandar Lampung, October 18 - 20, 2016

Supported by :

GREEN CHEMISTRY EXTRACTION FOR INDENTIFICATION OF POLICYCLIC AROMATIC HYDROCARBON (PAHs) IN URBAN MANGROVE OF BANDAR LAMPUNG

Rinawati[1], Yuli Anita Dwi Wahyuni[2], Diky Hidayat[3]

[1,3]Chemistry Department, University of Lampung, [2]Magister Chemistry, University of Lampung
[1]rinawati@fmipa.unila.ac.id, [2]yulianitadwiwahyuni@yahoo.com, [3]diky.hidayat@fmipa.unila.ac.id

Abstract

Although many functions of mangroves have been identified, mangroves are unvalued and one of the most threatened tropical environment. Most of the mangrove areas are impacted by economic growth and rapid development, which may contain organic micropollutant such as polycyclic aromatic hydrocarbons (PAHs). Water and sediment pore water of urban mangrove in Bandar Lampung were extracted using green chemistry extraction, Solid Phase Microextraction (SPME), and determined by gas chromatography-mass spectrometry. The result revealed that PAH compounds,such asphenanthrene, anthracene, fluoranthene, pyrene, benzo(a) anthracene, and chrysene were observed in all samples. Based on diagnostic ratio, the profile of individual PAHs indicates anthropogenic input from both of petrogenic and pyrogenic source. The result also showed successful green analytical method for analysis PAHs with good reproducibility and recovery ranging from 1.89 to 16.49% and from 80.62 to 95,21%, respectively.

Keywords: green extraction, solid phase microextraction, polycyclic aromatic hydrocarbon, urban mangrove.