

scavenging activity with $90.10\% \pm 0.269$ and IC_{50} was $7.88\mu\text{g/ml}$ where as the least activity was observed in stem extract with % inhibition 85.03 ± 1.309 and IC_{50} $62.34\mu\text{g/ml}$. The high DPPH scavenging activity manifested by various parts of the plant suggested that *T. orientalis* could be pharmaceutically exploited in future researches for its antioxidant properties which may be due to the presence of bioactive components such as phenols and flavonoids.

Keywords: DPPH, leaves, bark, stem, *Trema orientalis* Linn. Blume

P158

EFFICIENT BIOSORPTION OF Hg(II) OVER TREATED BANANA STEMS FIBRE

S. Triwahyono^{*1,2}, N. Salamun¹, A. A. Jalil^{3,4}

¹Department of Chemistry, Faculty of Science, Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Johor, Malaysia.

²Ibnu Sina Institute for Fundamental Science Studies, Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Johor, Malaysia

³Institute of Hydrogen Economy, Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Johor, Malaysia

⁴Department of Chemical Engineering, Faculty of Chemical Engineering, Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Johor, Malaysia

*Corresponding author: sugeng@utm.my

The potential of banana stem fiber (BSF) as a low cost biosorbent for Hg(II) removal was studied. HCl treatment increased the cellulose accessibility which led to an enhanced interaction of Hg(II) and BSF. Activation of BSF-HCl in vacuo at 373 K increased the maximum biosorption capacity from 28 to 372 mg/g and altered the activation energy from 3.5 to 76.9 kJ mol⁻¹ showing an increase in Hg(II) chemisorption. FTIR and ESR results confirmed the large amount of structural defects on the activated BSF-HCl which led to the increase in Hg(II) uptake. Batch biosorption models showed that the kinetics follow pseudo-second-order and the equilibrium uptake fitted to all three-parameter models showing the Hg(II) biosorption behaves as a Langmuir isotherm. The non-linear regression method exhibited higher coefficient of determination values for isotherm and kinetic analyses compared to the linear method. The thermodynamic functions indicated that the nature of Hg(II) biosorption is an exothermic and non-spontaneous process.

P159

ETHNOMEDICINAL PLANTS FOR HYPERTENSION USED BY MELANAU PEOPLE OF MUKAH, SARAWAK

Zahora Ismail^{*1}, Zamri Rosli¹, Seca Gandaseca²

¹Faculty of Agriculture and Food Sciences, UPM Bintulu Campus, Nyabau Road POB 396, Bintulu, Sarawak, Malaysia

²Faculty of Forestry, UPM 43400 UPM Serdang, Selangor Darul, Malaysia

*Corresponding author: zahora_i@upm.edu.my