

## ABSTRACT

In this paper we report on the synthesis and characterization of 1,4-benzene diamine (BDA) functionalized single walled carbon nanotubes linked to cobalt (II) tetracarboxy-phthalocyanine. The characterization of the conjugate was through UV-vis, FTIR and X-ray diffraction (XRD) spectroscopies and by transmission electron microscope (TEM) and electrochemical methods. The conjugate is used for the electrochemical characterization of diuron. The catalytic rate constant for diuron was  $4.4 \times 10^3 \text{ M}^{-1} \text{ s}^{-1}$  and the apparent electron transfer rate constant was  $18.5 \times 10^{-6} \text{ cm s}^{-1}$ . The linear dynamic range was  $1.0 \times 10^{-5}$ – $2.0 \times 10^{-4} \text{ M}$ , with a sensitivity of  $\sim 0.42 \text{ A mol}^{-1} \text{ L cm}^{-2}$  and a limit of detection of  $0.18 \text{ }\mu\text{M}$  using the  $3\delta$  notation.