World Academy of Science, Engineering and Technology
International Journal of Mathematical and Computational Sciences
Vol:14, No:12, 2020

Electrochemical Response Transductions of Graphenated-Polyaniline Nanosensor for Environmental Anthracene

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Abstract : A graphenated–polyaniline (GR-PANI) nanocomposite sensor was constructed and used for the determination of anthracene. The direct electro-oxidation behavior of anthracene on the GR-PANI modified glassy carbon electrode (GCE) was used as the sensing principle. The results indicate thatthe response profile of the oxidation of anthracene on GR-PANI-modified GCE provides for the construction of sensor systems based onamperometric and potentiometric signal transductions. A dynamic linear range of 0.12- 100 µM anthracene and a detection limit of 0.044 µM anthracene were established for the sensor system.

Keywords : electrochemical sensors, environmental pollutants, graphenated-polymers, polyaromatic hydrocarbon
Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development
Conference Location : Chicago, United States
Conference Dates : December 12-13, 2020