Sharina Abu Hanifah, Asian J Biomed Pharmaceut Sci, Volume:9
DOI: 10.4066/2249-622X-C2-020

9th World Congress on
Chemistry and Medicinal Chemistry
May 13-14, 2019 | Prague, Czech Republic

Functional polymer for polymer electrolyte and biosensor applications

Sharina Abu Hanifah
Universiti Kebangsaan, Malaysia

For the past decade, much attention was focused on polysaccharide natural resources and methacrylate polymer for various purposes. Our group has been interested into functionalized polymer for exploring novel functions. Throughout the works, several efforts were done to prepare new function of chitosan by chemical modifications for biopolymer electrolyte. We focus on the synthesis of the chitosan derivative, namely, O-nitrochitosan which was synthesized at various compositions of sodium hydroxide. Its potential as biopolymer electrolytes was studied. We also have been working on functionalized polymer for the fabrication of Sunset Yellow and Tartrazine biosensors. The polymer used was in the form of thin film and microspheres for Sunset Yellow and Tartrazine biosensors respectively. The biosensor for Sunset Yellow was developed by coating a peelable poly (acrylamide-co-ethyl methacrylate) film with immobilized laccase prepared by photopolymerization on a glassy carbon electrode (GCE). Tartrazine biosensor was designed with a functionalized methacrylate-acrylate microsphere immobilized with laccase and gold nanoparticles composite coated on a carbon paste screen printed electrode. Both biosensors were analyzed by cyclic voltammetry (CV) and differential pulse voltammetry (DPV).

Speaker Biography

Sharina Abu Hanifah received her BSc (Chemical Technology) in 2004 and graduated her PhD (Chemistry) in 2008 from Universiti Kebangsaan Malaysia under the supervision of Prof Lee Yook Heng. During her PhD study, she was an invited researcher at the Institute of Biotechnology, University of Cambridge, United Kingdom. She specializes in functionalized polymer for various applications including sensor and polymer electrolyte. Currently she obtained a grant for endocrine disrupting chemical biosensor based on aptamer.

e: sharina@ukm.edu.my

Notes: