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Fabrication of electroactive nanofibers**Pinar Camurlu and Merih Zeynep Çetin**
Akdeniz University, Turkey

Electroactive nanofibers, which are highly promising for sensor applications, have been receiving great attention due to their high electrical conductivity, surface area and porosity. Electrospinning has become one of the leading approaches for preparation of polymer nanofibers, owing to its superior attributes such as being simple, fast and relatively cheap. Focus of this study is to develop electroactive nanofibers based on conducting polymers which contain carbon nanotube (CNT). The electroactive nanofibers, which were constituted from polyacrylonitrile (PAN), CNT and PEDOT, were fabricated by combining electrospinning and chemical vapor polymerization methods. The nanofiber mats were prepared by electrospinning of a PAN and CNT mixture in DMF. Later, these mats were subjected to chemical vapor polymerization of EDOT in the presence of FeCl₃. The resultant electroactive nanofibers were characterized by SEM, FTIR, CV and four point probe conductivity studies. The collective results have shown that the prepared mats contain conducting, homogeneous, electroactive PEDOT coatings on the surface of the PAN/CNT nanofibers, which are expected to be promising candidates for the fabrication of amperometric biosensors.

Biography

Pinar Camurlu received her BSc (1999), MSc (2001) and PhD (2006) degrees from Department of Chemistry at Middle East Technical University in Ankara, Turkey. She has been working in Department of Chemistry at Akdeniz University (Antalya, Turkey), since 2007. Her research is focused on the design and synthesis of functional conjugated polymers and their applications such as; electrochromic devices, light emitting diodes, biosensors. She has published more than 45 papers in SCI journals and took part as a co-author for three international scientific book chapters.

pinarcamurlu@gmail.com

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