

INTISARI

Pengaruh Penyearahan Nanofiber PEDOT:PSS/PVA Terhadap Konduktivitas dan Aplikasinya untuk Deteksi Amonia

Oleh
Aldiansyah Putra
14/369511/PA/16378

Nanofiber PEDOT:PSS/PVA yang tersusun searah dan acak berhasil dibuat melalui metode elektrospinning. PVA (mw 89.000-98.000) dengan konsentrasi 13 wt% dicampur dengan PEDOT:PSS dengan perbandingan 2:3. Nanofiber PEDOT:PSS/PVA yang tersusun acak dan searah dibuat dengan paramater tegangan 15 kV dan jarak jarum antar kolektor 15 cm pada suhu kamar. Nanofiber PEDOT:PSS/PVA yang tersusun searah menunjukkan nilai konduktivitas yang lebih besar jika dibandingkan dengan nanofiber PEDOT:PSS/PVA acak dengan nilai konduktivitas masing-masing 4×10^{-4} S/m dan $2,4 \times 10^{-4}$ S/m. Turunnya resistansi nanofiber PEDOT:PSS/PVA pada saat dikenai amonia menunjukkan bahwa nanofiber PEDOT:PSS/PVA mampu mendeteksi amonia.

Kata kunci : Elektrospining, PEDOT:PSS, PVA, Konduktivitas, Amonia.

ABSTRACT

The Effect of Nanofiber Alignment of PEDOT:PSS/PVA Towards Electrical Conductivity and Its Application for Detecting Ammonia

By
Aldiansyah Putra
14/369511/PA/16378

Aligned and randomized nanofiber PEDOT:PSS/PVA were successfully fabricated using electrospinning method. PVA (mw 89000-98000) in concentration 13 wt% were blended with PEDOT:PSS 2:3. Aligned and randomized nanofiber were produced in the parameter 15kV voltage with tip to collector distance by 15 cm in the room temperature. Aligned nanofiber of PEDOT:PSS/PVA shows a higher electrical conductivity than the randomized one. The conductivity of aligned nanofiber is 4×10^{-4} S/m and randomized nanofiber is $2,4 \times 10^{-4}$ S/m respectively. The decrease in resistance value of nanofiber PEDOT:PSS/PVA showed that PEDOT:PSS/PVA nanofiber is able to detect ammonia.

Keywords : Electrospinning, PEDOT:PSS, PVA, Conductivity, Ammonia.