Nanostructured surfaces

Studies on electrical characterization of new Poly(linolenic acid)-g-poly(caprolactone)-g-poly(t-butyl acrylate) thin film

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Poly(linolenic acid)-g-poly(caprolactone)-g-poly(t-butyl acrylate) graft copolymer was synthesized by one-pot polymerization method [1] and used an interfacial layer in metal/semiconductor diode. This polymeric interfacial layer was fabricated basis on Si single crystal wafer by electrostatic spraying system. Nanofiber characteristics of the Poly(linolenic acid)-g-poly(caprolactone)-g-poly(t-butyl acrylate) graft copolymer layer was indicated through Scanning Electron Microscope (SEM) micrographs. For the purpose of investigating electrical characteristics of this diode, current-voltage (I-V) measurements were conducted in dark and various illumination intensity levels at room temperature. The main electrical parameters of the diode such as series resistance (R_s), shunt resistance (R_{sh}), ideality factor (n), reverse saturation current (I_o) and zero-bias barrier height (Φ_{Bo}) of the structures were extracted from forward-bias I-V data.

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References

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