AC Electrospinning Fabricated Nanofibrous Materials Based On Polycaprolactone And Graphene With Polydopamine Coating

Senta Mullerova[1], Micheala Radova[1], Pavel Holec[1], Pavel Kejzlar[2] and Jana Horakova[1]

[1] Department of Nonwovens and Nanofibrous Materials, Faculty of Textile Engineering, Technical University of Liberec, Studentska 1402/2, 460 17 Liberec, Czech Republic, senta.mullerova@tul.cz
[2] Department of Material Science, Faculty of Mechanical Engineering, Technical University of Liberec, Studentska 1402/2, 461 17, Liberec, Czech Republic

Abstract: Many publications describe chemical surface treatments by coating with various substances to provide better surface wettability and change surface properties of textile materials. One relatively available and frequently used method is polydopamine (PDA) coating. Polydopamine can alter many surface properties, especially wettability [1, 2]. This work describes the production of polycaprolactone (PCL) nanofibrous materials with varying concentrations of incorporated graphene (GR), produced by AC electrospinning technology, resulting in a highly hydrophobic surface. By using polydopamine, it was possible to reduce the contact angle and change surface properties such as surface electrical resistivity, using a polydopamine layer on surface. The material also appeared to be non-cytotoxic, giving it promise for biological applications, for example as a scaffold for cell culture.

REFERENCES

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