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Electrospun cellulose nitrate and poly (caprolactone) blends for biomedical applications

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Pure cellulose nitrate (CN) and blends of cellulose nitrate and poly (caprolactone) (PCL) were electrospun to form nonwoven mats. Mixed solvent systems of tetrahydrofuran (THF) and N, N-dimethylformamide were employed. The concentrations were varied to obtain sub-micron and nanoscale fiber mats. These fiber mats were analyzed using scanning electron microscopy (SEM), contact angle analysis, X-ray photoelectron spectroscopy (XPS) and thermal gravimetric analysis (TGA). The fiber morphology, surface chemistry and contact angle data show that these electrospun materials exhibit promising applications in the biomedical field.

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