Supporting Information

Green synthesis of titania nanowire composites on natural cellulose fibers

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Experimental Procedure:

To a 5 ml of 1-butyl-3-methylimidazolium chloride ([C₄mim]Cl) was added 0.5 mg of cellulose sheet (Adventec, Japan) and allowed to dissolve at room temperature by stirring at 600 rpm. To the above dissolved cellulose was added 0.5 mg Titanium(IV) n-butoxide (Aldrich Purity > 97%) over a 30 min period of time. Stirring was ensured for uniform coating of TiO₂ over cellulose. After 1 hour, 20 ml of Ethanol was added drop wise, while stirring was continued. The Ionic liquids and the unreacted metal alkoxide were removed by centrifuging the above mixture. Complete removal of ILs was done by washing the TiO₂ composite for several times. Finally, the material was dried in flowing air at ambient temperature. The EDX spectra of the material has an approximate atomic ratio of 2 : 1.5 : 1 for C : O : Ti respectively.

Figures Captions:

Figure S1: XRD spectra of TiO₂ cellulose fiber and after calcination at 500⁰ C for 2 h
Figure S2: EDX spectra of TiO₂/cellulose fiber
Figure S3: EDX spectra of TiO₂/cellulose fiber after calcination at 500⁰C for 2 h
Figure S4: Reflectance spectra of the calcined TiO₂/cellulose fiber
Figure S1
Figure S2
Figure S3
Figure S4