Supplementary Material (ESI) for Green Chemistry

Supporting Information

Green synthesis of titania nanowire composites on natural cellulose fibers

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Supplementary Material (ESI) for Green Chemistry

Experimental Procedure:

To a 5 ml of 1-butyl-3-methylimidazolium chloride ($[C_4mim]Cl$) was added 0.5 mg of cellulose sheet(Adventec, Japan) and allowed to dissolved 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 TiO_2 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 TiO_2 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 TiO_2 cellulose fiber and after calcination at 500^o C for 2 h

Figure S2: EDX spectra of TiO_2/cellulose fiber

Figure S3: EDX spectra of TiO_2/cellulose fiber after calcination at 500^0C for 2 h

Figure S4: Reflectance spectra of the calcined TiO_2/cellulose fiber

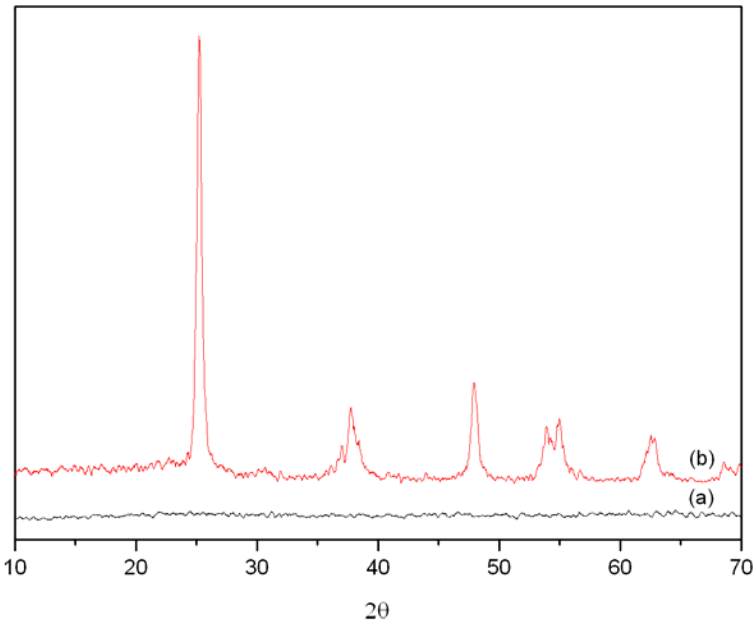

Figure S1

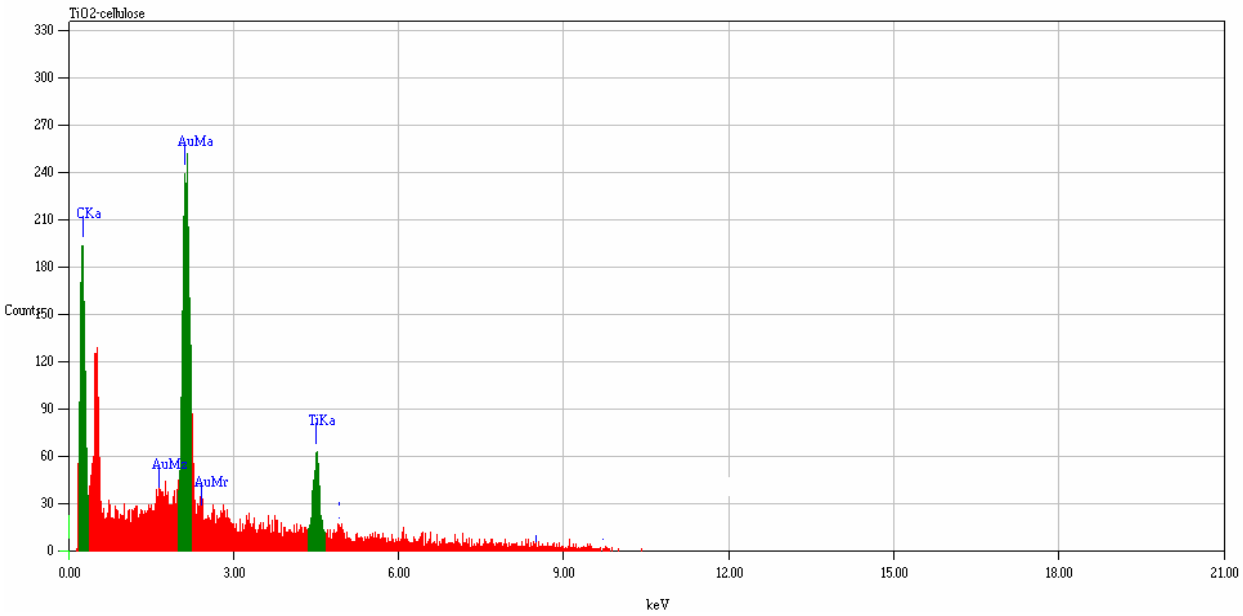

Figure S2

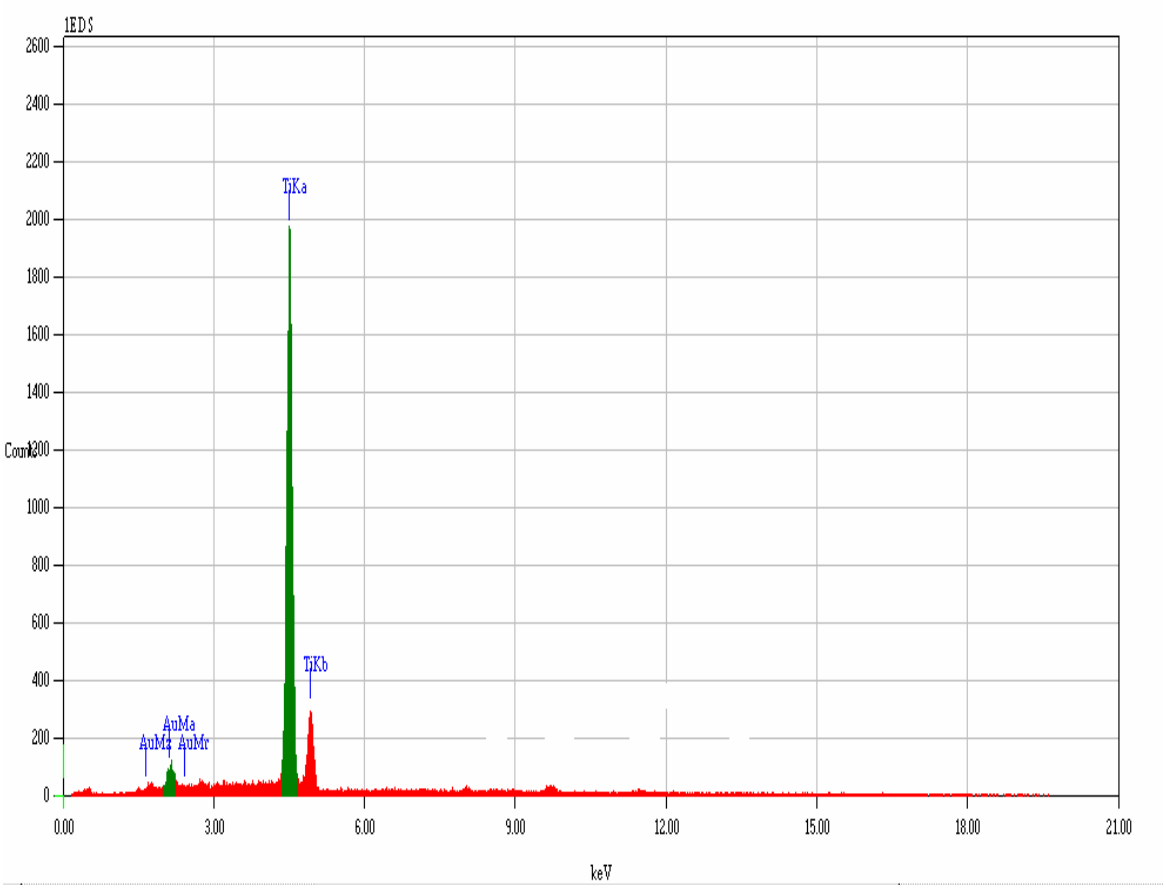

Figure S3

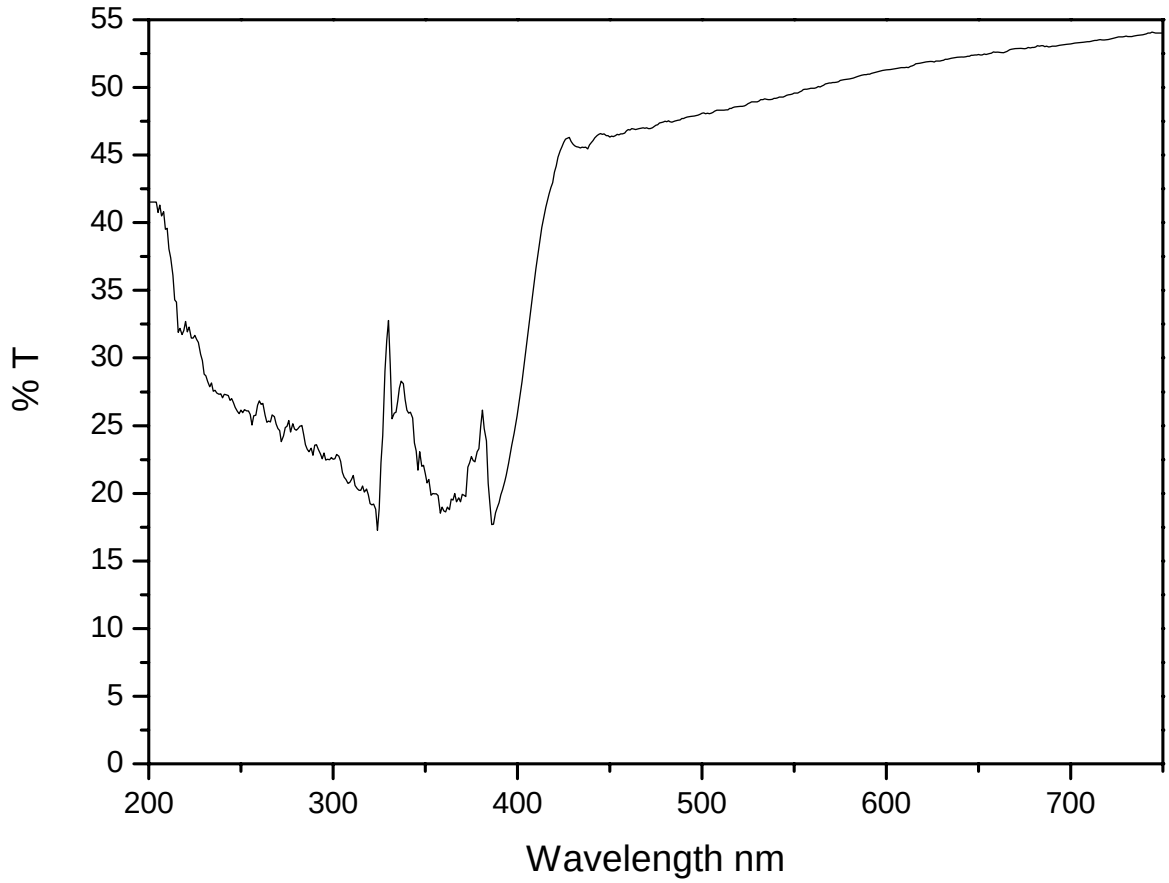

Figure S4