

## Structure and properties of new natural cellulose fabrics from *Cordia dichotoma*

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### ABSTRACT

Natural cellulose fabrics were newly identified from the branches of the *Cordia dichotoma*. The structure of the fabrics was analysed by FTIR and X-ray diffraction. The net-like morphologies of the untreated, bleached and 5% NaOH (alkali) treated lignocellulose fabrics were observed by SEM and POM. The increase in thermal stability of alkali treated fabrics when compared to the untreated and bleached fabrics was confirmed by the TGA analyses. The effect of bleaching and alkali treatment on the properties of the fabrics was also studied. The alkali treated fabrics exhibited the highest tensile strength of 36.2 MPa, elongation at break of 2% and Young's modulus of 3699.2 MPa when compared to the untreated and bleached fabrics. The structure and properties of the fabrics indicated that they could be suitable for blending and processing with biodegradable polymers to make green composites for various types of applications.