



**INTERNATIONAL CONFERENCE ON MATERIALS -  
PROPERTIES, MEASUREMENTS AND APPLICATIONS  
(ICMPMA 2022)**

**9 - 13 MAY 2022**

**ABSTRACT BOOK**

**Organized by  
Research & Postgraduate Department of Physics  
Fatima Mata National College (Autonomous)  
(Affiliated to University of Kerala) Kollam, Kerala, India**

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## Preparation and Properties of Highly Luminescent Carbon Dots: A Green Approach

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**ABSTRACT:** Using Cinnamomum tamala leaves highly luminescent carbon dots were synthesized through hydrothermal method. This green methodology is simple and economical. The synthesized CDs were characterized using UV-Vis absorption spectrophotometer, FTIR, XRD, FESEM and photoluminescence spectrometer. The synthesized CDs possess an absorption band at around 280nm. Fourier transform infrared spectroscopic analysis revealed the presence of functional groups such as COOH, NH<sub>2</sub>, N, C=O etc. in the synthesized CDs. They were small in size (~10 nm) and amorphous in nature. It has applications on the medical field. Due to its luminescence property it can be used as fluorescent probes in cellular imaging.

**Keywords:** Carbon Dots; Cinnamomum Tamala; Photoluminescence; Green Synthesis

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