(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :02/10/2025
(21) Application No.202511094836 A
(43) Publication Date : 28/11/2025

(54) Title of the invention : METHOD FOR PREPARING COBALT-DOPED COCONUT HUSK BIOCHAR (CO@CHBC) FOR EFFICIENT ADSORPTION OF ANIONIC DYES

(51) International classification	:C02F1/28, C02F1/30, C02F1/72, C02F101/30, B01J35/39, C01B32/30, C01B32/318, C01B32/324
(31) Priority Document No	:NA
(32) Priority Date	:NA
(33) Name of priority country	:NA
(86) International Application No Filing Date	: :01/01/1900
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)**Name of Applicant :**
1)Chitkara University
Address of Applicant :Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India Punjab India
2)Chitkara Innovation Incubator Foundation
(72)**Name of Inventor :**
1)Dr Jyotsna Kaushal
2)Ajay Khajuria

(57) Abstract :
ABSTRACT METHOD FOR PREPARING COBALT-DOPED COCONUT HUSK BIOCHAR (CO@CHBC) FOR EFFICIENT ADSORPTION OF ANIONIC DYES
The invention relates to a method for preparing cobalt-doped coconut husk biochar (Co@ChBc) for efficient removal of anionic azo dyes from wastewater. Coconut husks are impregnated with cobalt(II) acetate tetrahydrate [$Co(OAc)_2 \cdot 4H_2O$] and pyrolyzed at about 600 °C for 3–5 hours. The biochar is washed, dried at 70–90 °C, and powdered. The resulting Co@ChBc, confirmed by FESEM as highly porous, removes mixtures of dyes such as Methyl Orange and Eriochrome Black T with 99% efficiency in 30 minutes at 20 mg/L concentration, 500 mg dosage, and pH 6. The material is recyclable with over 80% efficiency retention, providing an economical and eco-friendly wastewater treatment solution. Reference Figure 1

No. of Pages : 12 No. of Claims : 10