(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :06/02/2024

(21) Application No.202441007897 A
(43) Publication Date : 15/03/2024

(54) Title of the invention : PROCESS OF DERIVING POROUS GRAPHITIC CARBON FOR HIGH-PERFORMANCE SUPERCAPACITORS FROM BIOMASS WASTE

(51) International classification :H01M0010052500, C02F0103040000, B27K0003080000, A61K0036850000, H01M0004620000
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

(71)**Name of Applicant :**
1)National Institute of Technology Karnataka
Address of Applicant :Srinivasnagar PO, Surathkal, Mangaluru - 575025, Karnataka, India Mangaluru ---------- ----------
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Shreeganesh Subraya Hegde
Address of Applicant :Shivanugraha, House No.-19, Beerangod, Post: Magod, Tq: Honnavar, Dist: Uttarakannada Honnavar ---------- ----------
2)Badekai Ramachandra Bhat
Address of Applicant :'Poornachandra' 15-22-1169/3, 3rd Cross, Lower Bendoor, Kankanady, Dist: Dakshina Kannada, Mangaluru - 575002, Karnataka, India Mangaluru ---------- ----------

(57) Abstract :
A process (100) of deriving a porous graphitic carbon for high-performance supercapacitors from a biomass waste is disclosed. The process (100) includes sun-drying Tectona grandis sapwood for a week, grounding the sun-drying Tectona grandis sapwood into a sapwood powder, washing the sapwood powder multiple times with a ultrapure water, followed by ethanol to obtain a sapwood paste, subsequently drying the sapwood paste in an oven before being pulverized, mixing pulverized sapwood in a predefined ratio with $FeCl_3$ in a minimum amount of the ultrapure water and continuously stirring on a hotplate until the pulverized sapwood became a first solid paste, placing the first solid paste in a hot air oven, at a first predefined temperature for a first predefined period of time, carbonizing the first solid waste in an argon gas environment at a second predefined temperature for a second predefined period of time to obtain a first carbonized sample.

No. of Pages : 21 No. of Claims : 9