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(57) Abstract :

A process (100) of deriving activated carbon from dead Mangifera indica leaf (DML) waste for high-performance supercapacitors is disclosed. The process includes mixing (102) a pulverized material with Ferric chloride (FeCl<sub>3</sub>) in minimum amount of ultrapure water and stirring using a magnetic bar at a first predefined temperature until a first solid paste is formed. The process further includes heating (104) the first solid paste in a hot oven for a second predefined temperature for a first predefined time to obtain a FeCl<sub>3</sub>-treated DML. The process further includes carbonising (106) the FeCl<sub>3</sub>-treated DML in an argon gas environment at third predefined temperature for second predefined time to obtain a FeCl<sub>3</sub>-treated DML powder. The process further includes mixing (108) the FeCl<sub>3</sub>-treated DML powder with 10 g of KOH in ultrapure water with continuous stirring on a hotplate to obtain a second solid paste. <

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