

Biowaste Sago Bark Based Catalyst Free Carbon Nanospheres: Waste to Wealth Approach

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ABSTRACT

Catalyst-free carbon nanospheres were synthesized using simple one-step pyrolysis techniques where biowaste sago bark is used as a carbon precursor. Obtained carbon nanospheres showed a porous nature and revealed that more than 95% carbon is present in the synthesized carbon nanospheres with particle size ranging from 40 to 70 nm. An electrochemical study showed a specific capacitance value of 180 F g^{-1} at 2 mV s^{-1} and the cycling stability up to 1700 cycles. Obtained carbon nanospheres are useful in supercapacitor applications. The presented study revealed a waste to wealth approach thereby reducing waste in the environment.

KEYWORDS: Sago bark; Nanoporous carbon; Pyrolysis; Supercapacitors; Waste to wealth

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