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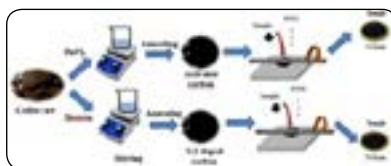
## Synthesis and properties of porous carbon derived from coffee waste as a supercapacitor electrode

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In this study, we fabricated a series of porous carbon materials derived from coffee waste as a supercapacitor electrode. XPS identified 82.69 at% carbon, 13.97 at% oxygen and 8.5 at% nitrogen on the surface of Coffee grounds. Carbonization with nitrogen atmosphere was conducted at various temperatures (700, 800, and 900 °C) in a tubular furnace. Also, further chemical activation enhanced the surface properties of porous carbon such as surface area and pore volume. Electrochemical properties of prepared porous carbon electrode were investigated using three-electrode system in 6 M KOH electrolyte solution. The prepared porous carbon electrodes derived coffee waste represented unique surface properties and nitrogen functionalized structure, which lead to high performance supercapacitive behavior

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**Scheme 1.** The synthesis procedure of porous carbon derived from coffee waste

### Biography

Eunbeen Na majored in chemical engineering at university. After graduating from college, I went to graduate school and studied in polymer nanomaterials laboratory. My main research is material development for energy storage devices. Various functionalities are introduced into graphene to improve physical properties, and it is applied to gas sensor and battery for performance test.

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