
About the Cover



The Philippine indigenous Pili tree (*Canarium ovatum* Engl.) waste nut shell is a potential source of new activated carbon that can capture or reduce greenhouse gas emissions. In the study conducted, charred sample has high fixed carbon content (86.81%), which upon activation, showed higher surface area (701 m²/g) and larger pore volume (0.45 cm³/g) compared to the unactivated sample. Modification of the carbon surface through impregnation of different amines resulted in lower surface areas, narrower pore volumes, and changes in morphology (from uniform geometric shape to spongy microstructures). The amine modified samples gave slight decrease in X-ray diffraction interlayer spacing ($d_{(002)}$) resulting in formation of micro crystallites that may promote CO₂ adsorption. Indeed, the modified AC samples had higher adsorption capacities for CO₂ than the original AC. The amount of adsorbed CO₂ on pentaethylenhexamine-modified AC was up to 2.380 mmol/g at 1 atm and 293 K, a 173% increase in comparison with that of the original AC. *more on page 149-159.*

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