

## Preparation and Adsorption Characteristics of Bamboo-based Activated Carbon

이상국<sup>1</sup>, 류동완<sup>1,2</sup>, 김홍곤<sup>1</sup>, 유민수<sup>1</sup>, 문희<sup>1,2,\*</sup>  
<sup>1</sup>전남대학교 공과대학; <sup>2</sup>BK21 기능성 나노 신화학소재 사업단  
(hmoon@chonnam.ac.kr\*)

It has been well known that bamboo is an abundant and inexpensive natural resource. In this work, activated carbon was fabricated using bamboo produced in Damyang, Jeonnam. The samples were prepared by physiochemical activation with water flow of 1ml/min at 1000°C for 2h. The results showed that the surface area is found to be 892 m<sup>2</sup>/g and the pore size is 3.29 nm. The adsorption equilibrium and kinetics of sodium dodecylbenzenesulfonate (SDBS) were examined using bamboo-based activated carbon prepared. Contrary to our expectation, the adsorption isotherm showed type IV indicating the bamboo-based activated carbon can be widely applied for the high-concentration wastewater treatments. For example, the concentration of the surfactant from household is the range of 5,000 ~ 10,000 ppm. In a sense, bamboo-based activated carbon is an excellent candidate for the wastewater treatment of the surfactants.