

## Adsorption of carbon dioxide by electrospun activated carbon nanofibers

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The webs of  $400 \pm 100$  nm fiber were prepared by electrospinning of PAN and zeolite blend. The webs were stabilized at  $280^\circ\text{C}$  in the air atmosphere, carbonized and activated at  $1000^\circ\text{C}$  in the nitrogen with 30 vol. % steam. The prepared activated carbon nanofibers (ACFs) of average diameter were  $300 \pm 50$  nm. The average pore diameter and specific surface areas were 0.6~0.7 nm. The surface of carbon nanofibers was characterized by FE-SEM (scanning electron microscopy), thermal stabilities by TGA (thermo gravimetric analysis) and pore characteristic by BET and chemical characteristic of carbon nanofiber surface by XPS (x-ray photoelectron spectroscopy). The condition of the gas were 200ppm CO<sub>2</sub> in He balance. The Adsorption amount of carbon dioxide were increased by an addition of zeolite.