F.55. PREPARATION AND CHARACTERIZATION OF ACTIVATED CARBON FROM *PANDANUS CANDELABRUM* STEM USING H_3PO_4

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Abstract. *Pandanus candelabrum* stem agricultural biomass was used to produce low-cost activated carbon using phosphoric acid as the activating agent. The aim of this study is to find out the changes occurring in *Pandanus candelabrum* stem during activation with phosphoric acid (H_3PO_4). The adsorbent was characterized using Scanning Electron Microscopy (SEM) coupled with Energy Dispersive X-ray (EDX) and Fourier Transform Infrared Spectroscopy (FTIR). The BET method was used for textural analyses; surface area increased from 49.225 to 258.99 m^2/g, and pore volume increase from 1.046 to 3.383 cm^3/g after treatment. The physicochemical analysis showed 82.51% of carbon and 4.06% of ash, which suggests a good precursor for the production of porous adsorbent.

Keywords: *Pandanus candelabrum* stem, phosphoric acid, activated carbon, chemical activation, morphology characterization.