



**Serbian Ceramic Society Conference**  
**ADVANCED CERAMICS AND APPLICATION IX**  
**New Frontiers in Multifunctional Material Science and Processing**

**Serbian Ceramic Society**  
**Institute of Technical Sciences of SASA**  
**Institute for Testing of Materials**  
**Institute of Chemistry Technology and Metallurgy**  
**Institute for Technology of Nuclear and Other Raw Mineral Materials**

**PROGRAM AND THE BOOK OF ABSTRACTS**

**Serbian Academy of Sciences and Arts, Knez Mihailova 35**  
**Serbia, Belgrade, 20-21. September 2021.**

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data given in the Ecoinvent database (v3.6). Based on the results, the production phase (modules A1-A3) contributes the most to the environmental impact. Taken as a whole, most impact categories are dominated by energy processes and consumption of raw materials.

## **P**

### **Preparation of Active Carbon Material By Activation With Various Hydroxide And Characterization Of Their Properties**

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The aim of this research is to obtain active carbon material from the plane tree fruit. The precursor was first treated with hydrothermal synthesis and then mechanochemically activated with various hydroxides and finally carbonization was done to promote activation. It can be concluded that by acting of different hydroxides (NaOH, BaOH, LiOH, KOH) in the same mass ratio and using the same precursor and the same process, totally different materials with different structure and morphology are obtained. The initial composition of the precursor as well as the final product (active carbon materials) were analyzed using a proximate and ultimate method. The active area surface, volume and pore size was determined using the BET method. Verification of surface-active reaction groups in the identified structures was carried out through Fourier-transform infrared (FTIR) spectroscopy. Morphology of resulting activated carbon materials has been investigated by scanning electron microscopy (SEM) and X-ray diffraction (XRD). The application of the obtained materials is reflected in the fact that we removed the waste, we prevented the pollution of nature, and on the other hand we have obtained material that can be used for various purposes, for example, air and water filters, heating briquettes, fertilizer for plants, superconductors, etc.