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Obtaining active carbon from waste biomass

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The aim of the presented research was to obtain activated carbons from the residues of supercritical extraction of three plant materials: hop cones, chamomile flowers and green tea leaves. The physicochemical properties of the obtained carbon materials were determined. In the next stage of the research, the obtained sorbents were tested for suitability for the removal of organic pollutants from water on the example of rhodamine B. Activated carbons were also tested for the ability to remove toxic gases represented by nitric oxide (IV). The study also analyzed the influence of the type of precursor on the physicochemical and sorption properties of the obtained carbon materials.

Recent publications

1. Wdowiak K, Walkowiak J, Pietrzak R, Bazan-Woźniak A, Cielecka-Piontek J. Bioavailability of Hesperidin and Its Aglycone Hesperetin—Compounds Found in Citrus Fruits as a Parameter Conditioning the Pro-Health Potential (Neuroprotective and Antidiabetic Activity)—Mini-Review. *Nutrients*. 2022; 14(13):2647.

2. Marciniak M, Goscińska J, Norman M, Jesionowski T, Bazan-Woźniak A, Pietrzak R. Equilibrium, Kinetic, and Thermodynamic Studies on Adsorption of Rhodamine B from Aqueous Solutions Using Oxidized Mesoporous Carbons. *Materials*. 2022; 15(16):5573.
3. Ptaszewska-Koniarz M, Goscińska J, Bazan-Woźniak A, Pietrzak R. Amine-Modified Carbon Xerogels as Effective Carbon-Based Adsorbents of Anionic Dye from Aqueous Solutions. *Materials*. 2022; 15(16):5736.

Biography

Aleksandra Bazan-Woźniak in 2018 obtained a doctoral degree in chemical sciences. Since 2021, she has been employed as a research assistant professor at the Department of Applied Chemistry, Faculty of Chemistry, and University of Adam Mickiewicz in Poznań. Her research topics focus on the preparation and characterization of the physico-chemical and sorption properties of biocarbon adsorbents obtained from waste materials.

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