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## **PNiPAM-FUNCTIONALIZED MESOPOROUS CARBON FOR THE ADSORPTION OF VITAMIN B2**

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### **Abstract**

The present research reports the synthesis of poly-N-isopropylacrylamide / mesoporous carbon composites, prepared by radical polymerization of N-isopropylacrylamide inside mesoporous carbon pores functionalized with carboxylic groups. The deposition of poly-N-isopropylacrylamide on mesoporous carbon was confirmed by FT-IR spectroscopy, TEM, N<sub>2</sub>-sorption measurements. The mesoporous carbon material was found to adsorb vitamin B2 from aqueous solution at room temperature. The obtained composite, poly-N-isopropylacrylamide / mesoporous carbon, exhibited a higher adsorption capacity for vitamin B2 as compared to un-functionalized mesoporous carbon sample, due to hydrogen bonding between carbonyl groups of poly-N-isopropylacrylamide immobilized on the mesoporous carbon surface and amino groups of vitamin B2 molecules.

*Key words:* mesoporous carbon (MC), poly-N-isopropylacrylamide, polymer-functionalized MC, vitamin B2

*Received: November, 2014; Revised final: March, 2015; Accepted: March, 2015*

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