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BIOMEDICAL USES OF BIOCOMPATIBLE TEMPERATURE-SENSITIVE MICROGELS

A. Imaz, J. Forcada

Grupo de Ingeniería Química, Facultad de Ciencias Químicas, The University of the Basque Country, Apdo. 1072, 20080 San Sebastián, Spain

Microgel particles have received an increasing interest in the biomedical field. One of the key factors for the successful utilization of microgel particles in biomedicine is their chemical composition which determines the location of functional groups within the swollen cross-linked polymeric chains providing targeted adsorption or grafting of small molecules, polymers, etc. Among microgels, temperature-sensitive ones gained interest particularly due to their potential use as controlled drug delivery systems.

In order to evaluate the potential application of new N-vinyl caprolactam-based microgels as drug delivery systems, two important factors were analyzed: the drug incorporation (uptake) into the microgel particles, and the biocompatibility of the microgel particles by testing the cytotoxicity against embryonic rat neuronal cells.