

Preparation and Characterization of Photo-Cross-Linked pH-Sensitive Nanogels

김선미, 김덕준*
성균관대학교
(djkim@skku.edu*)

In the past decades, there have been growing interests submicro polymeric particles and micelles of amphiphilic block copolymers for drug carriers. Nanogel is polymeric three-dimensional networks able to swell in an aqueous medium and it has nano size.

It was reported that the extracellular pH of tumors is approximately 7.0. Moreover, the pH inside the endosome changes from pH 7.0 to pH 5.5. . If some biocompatible polymers with sensitive responses to pH changes, they might be used as intracellular delivery carriers with good endosome escaping ability and tumor targeting delivery systems. The cationic imidazole group can be used as a pH sensitive moiety in aqueous media, since imidazole rings are hydrophobic at pHs above its pKa value but hydrophilically charged at pHs below it.

In this work, I have prepared and characterized nanogel by UV irradiation of C18/MPEG/MA/API-g-PASPAMs, containing in the side chains photocrosslinkable groups such as methacrylate functions.