

Production of sorption-active polypropylene fibers by radiation-induced modification of polymer surface

김준홍, 조현국, Bondar Juliia, 한도홍*
영남대학교 응용화학공학과
(dhhan@ynu.ac.kr*)

The design and development of sorption-active natural and synthetic polymer fibers and textile materials is of great scientific and practical interest. The advantages of that type of polymeric adsorbents, as their highly developed specific surface, excellent ion-exchange and adsorption parameters, the ease of their use especially under continuous conditions allow them to find a great application in the chemical, biomedical, ecological and industrial fields.

To obtain functional materials with the desired performance the non-active polymer surface has to be modified. Among different innovative techniques used for this purpose the radiation-chemical method of initiation has some economical and ecological preferences over others. In particular, radiation-induced graft copolymerization is one of the promising methods for modification of the non-active polymer surface. It allows to introduce onto polymer matrix nano(micro)-chains of a monomer already containing a desirable functional group, or to graft chains of a precursor-monomer and subsequently its chemical modification to form required functional groups.