Drug-loading study of gelatin nanoparticles

임광희*, 이은주[1], Saeed Ahmad Khan, Dao Vinh Nam
대구대학교 화학공학과; [1]경북대학교 화학공학과
(khlim@daegu.ac.kr*)

The goal of this study was to investigate the entrapment of three different drugs (Fluconazole, Tizanidine hydrochloride, and Gatifloxacin in gelatin nanoparticles. The particles were prepared by nanoprecipitation method using water or DMSO as solvent and Ethanol as nonsolvent. It led to a homogenous population of nanoparticles except in Tizanidine hydrochloride loaded case, where visible aggregates were found in the system. No loading was achieved in case of Fluconazole, while Tizanidine hydrocholide loaded crosslinked particles showed 16% loading efficiency which was decreased to 1-2% in uncrosslinked case. Contrarily the loading efficiency of Gatifloxacin loaded crosslinked particles was 5-6% and was increased to 15-20% when crosslinking was excluded from the procedure.