

Mild Condition Synthesis of ZnFe_2O_4 for Biomedical Application

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Recently, many researches have been focused on the application of ZnFe_2O_4 such as antibacterial, photocatalyst. Thereafter, the value of this materials is increasing. But other synthetic methods are uneconomical because they include harsh conditions such as high temperature and pressure. For that reason, we conduct this experiment in mild condition for minimize cost. In this work, we used PEG instead of octylamine to enhance biocompatibility. In our human body, Zn ions and Fe ions are used for bone regeneration and blood vessel regeneration respectively. From the ICP data, we confirmed Zn, Fe ions issolved in turn. Until now, to inject nanoparticles in human body is reluctant to us, because nanoparticles remain after reaction. In this respect, we improve a remaining problem effectively.