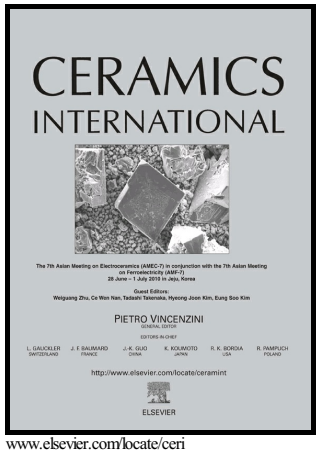

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Key words: Hydroxyapatite nanoparticles (D); tenorite nanocomposites (D); radiolabeled nanoparticles (D); theranostic systems (E).

Abstract

Hydroxyapatite (HA) nanoparticles (NPs) doped with different radioisotopes for use as theranostic systems play an important role in scientific research nowadays due to their ability to simultaneously act in the treatment and diagnosis of various types of cancers. In this work, we describe the synthesis and characterization of a hydroxyapatite/tenorite nanocomposite functionalized with folic acid, representing a nanotheranostic material with potential for application as an agent in positron emission tomography imaging systems and to act specifically in the treatment and diagnosis of osteosarcoma. ^{64}Cu and ^{32}P were produced by nuclear activation in the TRIGA reactor at CDTN. The