

- [17]. **M. H. Eisa**, H. Shen, Y. Mi, K. Ibrahim, M. H. Khalid, F. Azhari, K. M. Haroun and I. M. Elfaki, X-Ray Absorption Fine Structure Measurements on Bone Composition, International Conference on Nanotechnology-Research and Commercialization 2009 (ICONT2009), 14th to 17th December (2009)- (<http://icont2009.sirim.my>), Langkawi Island, Malaysia

X-Ray Absorption Fine Structure Measurements on Bone Composition

M. H. Eisa^{1,2,3*}, H. Shen^{2,3}, Y. Mi, K. Ibrahim³, M. H. Khalid³, F. Azhari³, K. M. Haroun⁴ and I. M. Elfaki¹

¹ Physics Department, College of Science, Sudan University of Science technology, Khartoum **11113**, Sudan

² Institute of Modern Physics, Fudan University, Shanghai **200433**, PR China

³The School of Physics, Universiti Sains Malaysia, Penang **11800**, Malaysia

⁴ Physics Department, College of Education, Elazhari University, Khartoum **13311**, Sudan

Abstract

It is well known that, bone composition has an important role in the human and animal body. Because of the inherent difficulties in the characterization of bone structure and composition as biomedicine materials, there are no more information has so far been reported in the literature. Therefore, further investigations are needed. In this study, X-ray absorption fine structure (XAFS) in Fluorescence mode was used to investigate the bone composition and the biomedicine materials as standard samples. The obtained results were compared with the published data. Thus, good agreement between our experimental results and published data is obtained. This investigation confirmed that XAFS is useful technique for bone structure and composition. In this work, details of sample preparation procedures, experimental setups, data analysis, are presented and discussed.

Keywords: X-ray absorption fine structure (XAFS); Fluorescence; Bone mineral; Hydroxyapatite
