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Cyclic Voltammetry Influence on the Crystallization Process of Ferritin for Atomic Force Microscopy and X-Ray Diffraction. M. Rivera, A. Moreno, Dept. de Bioquímica, Instituto de Química, UNAM, México, 04510., mrivera@servidor.unam.mx.

Some metalloproteins, as proteins with redox behavior, have an important role in many metabolic processes and therefore, have been the subject over the last years of many Bio-electrochemical and Biomedical investigations. In particular, the cyclic voltammetry approach has been the most used method to investigate electron transfer reactions of different biological, biochemical and biophysical systems. By using the electrochemical module of an Atomic Force Microscope, we have investigated the crystallization process of horse spleen ferritin under the influence of controlled potentials. In particular, the shape, size and the grow rate of ferritin crystals were studied in situ with a video-camera coupled to the AFM in order to investigate the influence of the different potential parameters on the crystallization mechanism in order to obtain high quality crystals for x-ray diffraction and atomic force microscopy experiments.