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# The Influence of Thermal Treatment on the Formation Mechanism of the Cu, Fe-Containing Nanocomposite Material Synthesized by the Sol–Gel Method

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The nanocomposite samples, containing copper and iron species in the silica matrix, were prepared by annealing at temperatures up to 1100°C. The samples were investigated by X-ray diffraction analysis, Fourier transform infrared spectroscopy, and cyclic voltammetry. The results of the performed study depict to the presence of a temperature gradient, which acts on the sample during the annealing treatment in the furnace. For the first time, the influence of the temperature gradient on the formation mechanism of the samples was discussed.

**Keywords:** temperature gradient, nanocomposite, sol–gel, XRD, FTIR.