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Physiochemical Characterization of Coptic Jesus Christ Icon, church of Saint Mercurius , Egypt				عنوان البحث
نعم				مستخلص من رسالة ماجستير او دكتوراة
<p>This research presents a physiochemical analysis of a Coptic icon from church of Saint Mercurius that dates to the 19th centuries. Identified deterioration phenomena were illustrated using various examination and analysis tools in order to fulfill the study's objectives. And that might provide an explanation for how the ancient icons were damaged. The visual inspection revealed that the Coptic icon is made up of four layers: the wooden panel support, the preparation layer, the painting layer, and the remaining varnish layer, each of these layers suffered from surrounding environment, appearing in various signs of damage in the visual assessment. Samples taken from different places were investigated and analyzed by using scanning electron microscope equipped with an energy dispersive X- ray detector (EDS), FTIR, and X- Ray diffraction.</p> <p>The results of FTIR analysis revealed that the ground layer was consisted of gypsum, chalk and animal glue. XRD spectra confirmed that the red pigment was red lead, blue pigment was ultramarine, white pigment was white lead, and brown pigment was iron oxide (burnt sienna), in addition to the usage of the egg yolk as a binder in painting layer and the varnish was Shellac resin. The state of deterioration was detected, according to the SEM results, which show clearly the presence of stain, soot, wax ,cracks and holes at the lower layer of the icon, and accumulative of dust and darken varnish layers on the upper layer.</p>				ملخص البحث باللغة الانجليزية