

CHARACTERIZATION OF NATURAL AGED WOOD FROM PAINTING SUPPORTS BY SPECTROSCOPICAL METHODS IN THE VIEW OF DIAGNOSIS AND CONSERVATION

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This study is an approach of the analytical capacity of X-Ray diffraction, X-Ray Photoelectron Spectroscopy and Fourier transform infrared spectroscopy (FT-IR) for wood samples used as supports from works of art. Namely the wooden supports from icons and iconostasis from different periods (18th to 20th century).

The analytical procedures/conditions for the wood component of the works studied have been optimized. A description of morphological and compositional changes in wood subjected to long-term degradation in environmental conditions (by anatomical and environmental factors) made by X-Ray diffraction, XPS and FT-IR spectrometry offers a quick non-destructive noninvasive analysis. Information obtained on different molecular groups are processed to provide the qualitative and quantitative changes in lignin and carbohydrate components relative to one another in wood degraded permitting the establishing of the diagnosis of pathologies required for conservation treatment.