

Determination of fatty acid composition in ancient paints

April 6, 2012

Elana Huelle

Gas and liquid chromatography with mass spectrometric detection were utilized to identify organic binders and/or vehicles added to paint in ancient cave paintings. We made modern paint samples in order to mimic ancient paint. The modern paint samples were subjected to acid-base-acid, base only, and no pretreatment washes to simulate sample preparation for radiocarbon dating. Results suggest that pretreatment and derivatization do affect measured levels of fatty acids. Identification of organic material in paint samples will increase confidence in radiocarbon results, as well as highlight the use of technology and natural resources by ancient cultures.