

## Imaging Chemically Modified Wood by IRENI-FTIR

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Natural durability is deficient for most wood species used in commercial and residential construction, and biodeterioration of wood will occur if exposed to moisture. Heavy-duty preservatives, based on toxicity to degrading organisms, have historically been used to protect wood from biological degradation. As environmental and economic conditions change, new types of wood preservatives, as well as wood-plastic composites, have become available. Chemically and thermally modified woods have recently become commercially available in the United States. Biological durability of modified wood is intended to be based on nontoxic mechanisms, such as substrate modification or moisture resistance, instead of toxicity. Chemical imaging modified wood with the IRENI beamline at SRC can help to understand the chemistry and mechanisms of durability of modified woods.

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