



Showcasing research on a sustainable Urushi coating material from Professor Masaharu Nakamura's laboratory, Institute for Chemical Research, Kyoto University, Kyoto, Japan.

Synthetic urushiols from biorenewable carbon resources: chemical conversion of enzymatic degradation products of wood lignin to an ancient yet future coating material

A sustainable urushi coating material was developed by combining phenylpropanoids derived from woody lignin with vegetable fats. Artificial Urushiols were synthesized through a five-step chemical transformation using phenylpropanoids available from enzymatic degradation of woody lignin and tri-unsaturated fatty acid as starting materials. Comparing the curing properties of the synthetic urushiol and the structural properties of the polymerized film to those of natural urushiol demonstrated the potential of artificial Urushi as a coating material that bridges the ancient and the future.

As featured in:



See Katsuhiro Isozaki, Masaharu Nakamura *et al.*, *RSC. Sustainability.*, 2024, **2**, 1358.