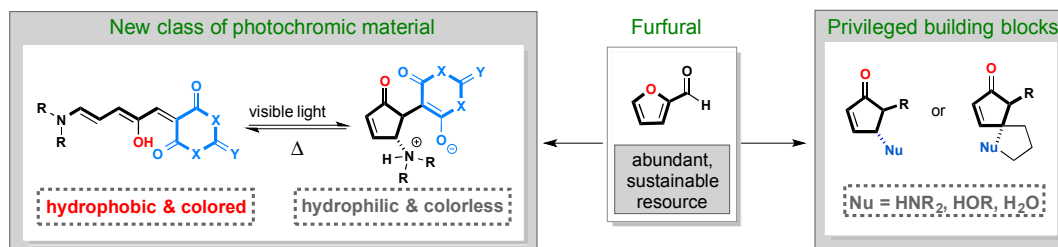


Molecular Rearrangements of Furan Heterocycles

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Materials derived from non-edible renewable resources, ideally by-products in food production processes, are valuable starting materials for chemistry. One such raw material, furfural, is produced from hemicellulose derived from agricultural waste products like bagasse, oat hulls and corncobs. Environmentally benign stock-chemicals are important to sustainable development by ensuring a future supply of raw materials. Our group has studied the molecular rearrangement of furfural and its derivatives to streamline the synthesis of molecular building blocks, including a novel class of photochromic material. In this lecture, we will present the development of this chemistry and highlight recent applications of the photochromic material as sensors and their use in light-controlled cargo delivery.