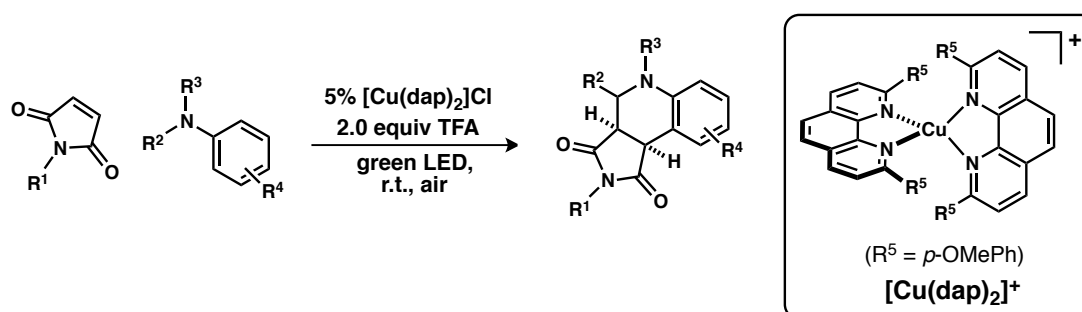


Visible Light Copper(I) Photocatalysis in Organic Synthesis & a New Method for Natural Products Extraction

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The development of methods for the direct C–H functionalization of organic molecules can simplify and shorten synthetic routes, enhance efficiency, and create novel synthetic strategies. With this in mind, our efforts to establish new synthetic methods exploiting copper-based visible light photocatalysts will be presented (Scheme 1).¹ This is part of a broader project concerned with the design and construction a range of new copper(I) visible light photocatalysts with useful synthetic applications.



Scheme 1: Copper-catalysed α -amino C–H bond functionalisation

To this day, the majority of pharmaceutical drugs on the market feature either naturally occurring organic molecules or their derivatives. Consequently, developing time-efficient and cost-effective methods for searching for and ultimately identifying biologically active natural products remains an area of enduring interest and global significance. Ongoing work in our laboratory is focused on developing novel processes for the identification and rapid isolation of multigram quantities of natural products. To this end, we are investigating the scope and limitations of a new and rapid pressurized hot water extraction (PHWE) method developed in our laboratories (Figure 1).² Our recent work in this area will be discussed.

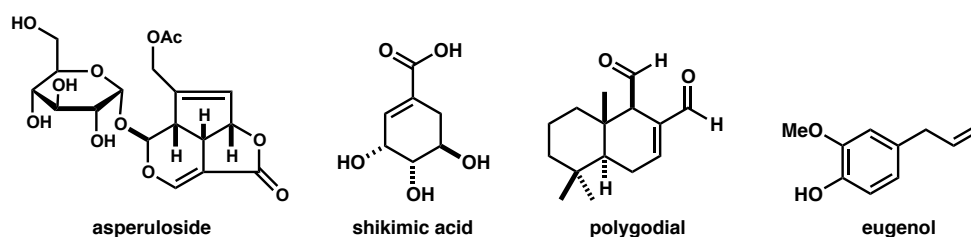


Figure 1: Natural products isolated by PHWE.

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