Protecting-Group-Free Synthesis of Selenoglycoconjugates in Water

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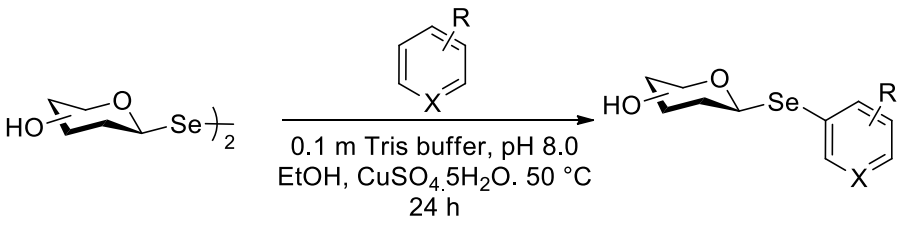

Herein, we present a broadly applicable method for the synthesis of selenoglycosides in water. We show the ease of direct conjugation of unprotected glycosyl diselenides with various biomolecules, including resorcinol, resveratrol, and the antitumor agent, gimeracil, furnishing the corresponding selenoglycoconjugates in up to 96% yield.

We also demonstrate the oxidatively-triggered release of the bioactive drug from the sugar, priming these molecules for medicinal applications. The generality and broad substrate scope of this novel transformation will provide access to various selenium-containing glycomimetics and glycoconjugates.