SYNTHESIS OF CARBON-SULFUR-BRIDGED GLYCOMIMETICS BY THIOLENE COUPLING REACTIONS

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Over the last few years, photoinduced free-radical addition of thiols to alkenes, termed thiole–ene coupling or thiol–ene click reaction, has emerged in the field of carbohydrate chemistry as a robust ligation tool providing an easy access to S-linked glycoconjugates. Interestingly, there are very few examples for the application of unsaturated carbohydrates bearing an exo- or endocyclic double bond within the thiol–ene coupling strategy. Thus, the inherent potential of this mild and efficient synthetic methodology to incorporate a sugar unit into another bioactive compound through a carbon-sulfur linker has remained unexploited until now.

Here, we demonstrate the benefits of free-radical hydrothiolation of alkenyl sugars bearing an exocyclic double bond providing stable carbon-sulfur-bridged glycomimetics.

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