

Photocontrol of ion permeation in lipid vesicles with (bola)amphiphilic spirooxazines

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We are developing photoresponsive lipid-based nanoparticles by integrating photochromic molecules with supramolecular assemblies such as lipid vesicles. These biocompatible nanoparticles will have potential application in ‘on-demand’ drug delivery where the delivered dose will be regulated with light. We have synthesized (bola)amphiphilic spirooxazines **1–3** (Fig. 1). Further, we have examined their inclusion in lipid vesicles and their photocontrol of ion permeability. Our most recent developments regarding the functionality of these photoresponsive nanoparticles will be presented.

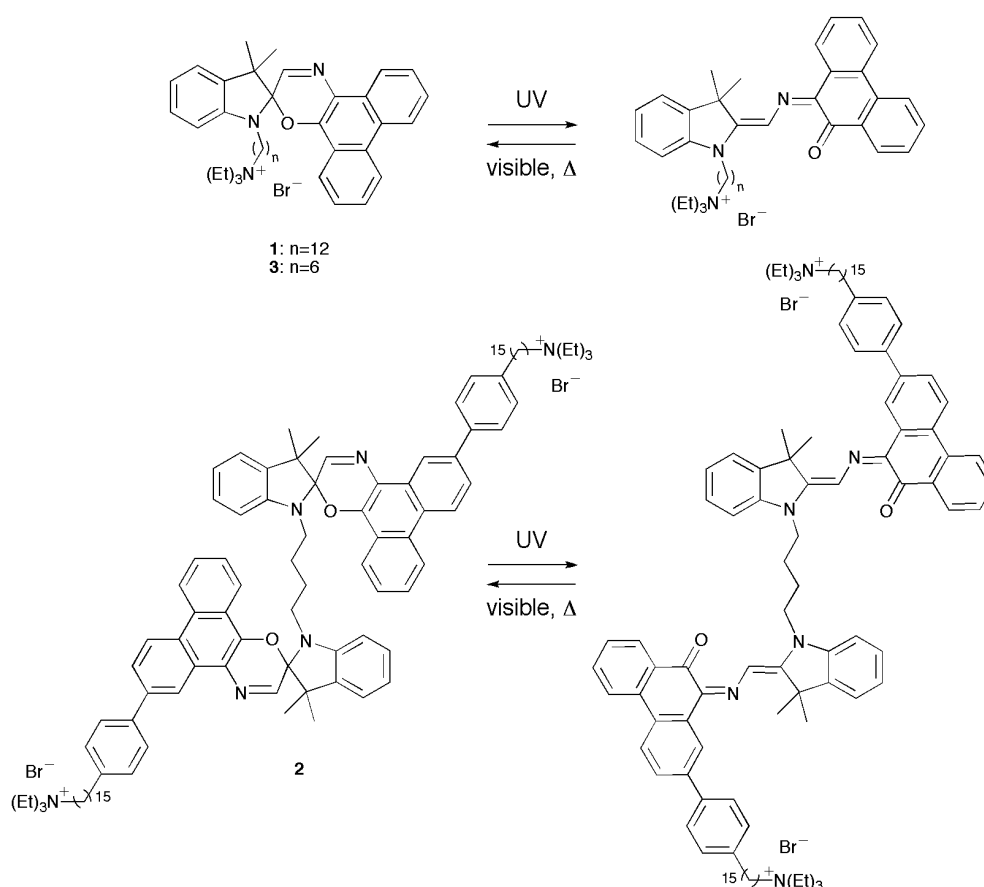


Figure 1. Structures of the photoisomers for **1–3**.