A Photochemical Amplifier Based on Self-Immolative Spacer

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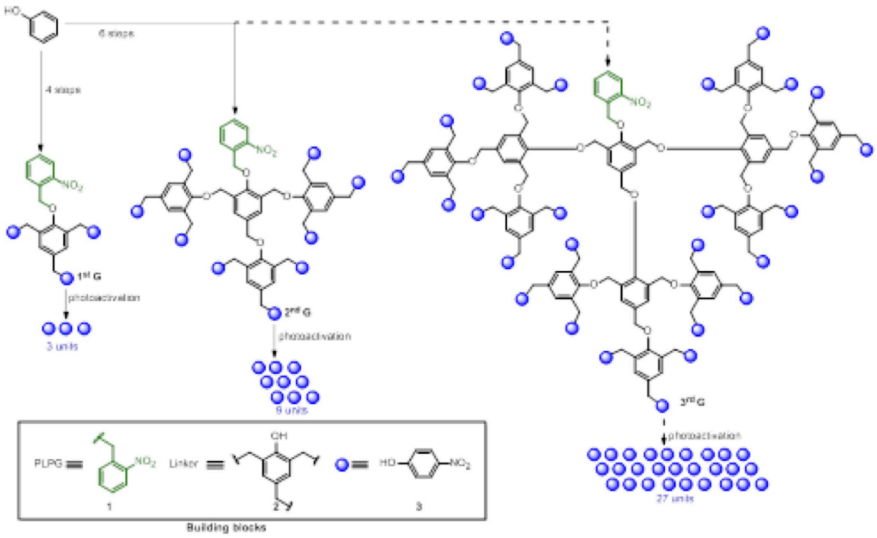
A molecular amplifier could be defined as a device capable of transforming a weak chemical (physical) input into a large chemical output. In this work, we will present a molecular amplifier capable of releasing multiple chemical entities upon activation by a single photochemical event (scheme 1).



Our system could be used as 1) indicator 2) solubilizing agent and 3) as controlled drug delivery system, and is based on readily available building blocks, such as 1) a photolabile protecting group (2-nitrobenzyl) to induce an increase of the stability in the system, 2) a self immolative linker to connect two or more entities and be able to fragment upon activation and 3) nitrophenol, a colored releasable group.