

Visible Light Photoactivated Metal-Free Carbon Monoxide-Releasing Molecules (photoCORM) Suitable for Bioapplications

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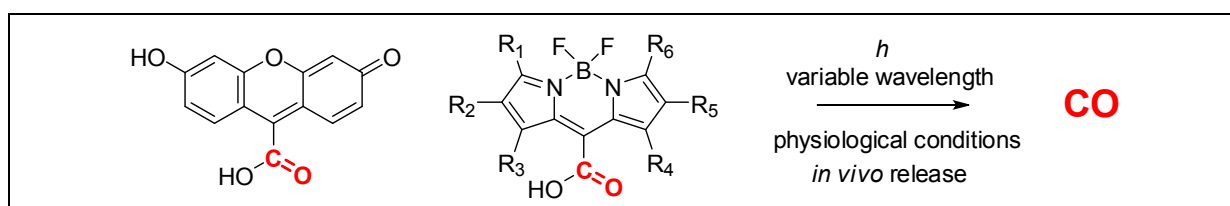
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Carbon monoxide (CO) has been recognized as a signaling molecule with a broad spectrum of biological activities.¹ Anti-inflammatory, antiproliferative, and antiapoptotic effects of biogenic CO have been reported.² Various transition-metal-based CO releasing molecules (CORMs) have been introduced recently for biological applications. However, these molecules suffer from toxicity, low water solubility, extremely short half-lives and an uncontrolled CO release limiting thus their therapeutic potential. We have developed a family of metal-free photoactivatable CORMs based on the xanthen³ and BODIPY structural motifs. Their absorption properties can easily be tuned by different substitution patterns. High chemical yields and a sufficient efficiency of the CO release, long biogenic half-lives and no toxicity make them suitable for biological and therapeutic purposes.



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