



Nonlinear photonics properties of porphyrins nanocomposites and self-assembled porphyrins

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Résumé en anglais	Two major reasons limit porphyrins photonic applications: (i) the difficulty of handling them in liquid solutions and (ii) their degradation with long exposure to light. This necessitates the use of appropriate solid matrices to host the porphyrin compounds such as Nafion (117), a stable and inert ion exchange polymer. The first part of this publication confirms such a possibility. In addition to their effective NLO properties, an enhancement of the Soret and Q-bands absorbance width have been observed by blending three different porphyrin molecules in the Nafion column matrix membrane. This is an important development towards achieving efficient photon-harvesting medium for possible application in photonic devices. The second part of this contribution reports on the self-assembly/molecular recognition of a specific class of porphyrins giving rise to tubular nano-systems with potential THG nonlinear properties.
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