



Enhancement of linear and nonlinear optical properties of deoxyribonucleic acid-silica thin films doped with rhodamine

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Auteur	Sahraoui, Bouchta [1], Pranaitis, Mindaugas [2], Iliopoulos, Konstantinos [3], Mihaly, M. [4], Comanescu, A. F [5], Moldoveanu, M. [6], Rau, Ileana [7], Kažukauskas, Vaidotas [8]
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Résumé en anglais	<p>In this work, we present the linear and nonlinear optical properties of DNA as functional material, incorporated into a silica material matrix with rhodamine organic dye. We observed that even low concentration of DNA affects the aggregate behavior of the dyes in silica films. The samples with DNA showed higher transmittance and fluorescence efficiency. Moreover, the presence of DNA has been found to significantly enhance the nonlinear optical response of the systems. In this way, we prove that silica materials can provide suitable matrices for hybridization with functional molecules and can be utilized as active optical waveguide materials with enhanced nonlinear optical properties.</p>
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Liens

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