



Nonlinear optical characterization of functionalized organometallic complexes using THG and Z-scan techniques

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Auteur	Luc, Jérôme [1], Boudebs, Georges [2], Cassagne, Christophe [3], Fillaut, Jean-Luc [4], Rau, Ileana [5], Migalska-Zalas, Anna [6], Bakasse, Mina [7], Sahraoui, Bouchta [8]
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Résumé en anglais	<p>We report the measurements of third-order nonlinear optical (NLO) properties in picosecond regim of functionalized organometallic complexes using third harmonic generation (THG) and Z-scan techniques. We show the results obtained for solutions dissolved in dichloromethane with different concentrations. For each chromophore, we give the values of: the nonlinear absorption coefficient β, the nonlinear refractive index n_2, the third-order nonlinear susceptibility χ_3 and the second-order nonlinear hyperpolarisability γ of individual molecules. This approach allowed us to determine also the electronic and rotational contributions of χ_3 by using a picosecond laser Nd:YAG at the fundamental wavelength 1064 nm.</p>
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