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PHOTOCHEMISTRY AND MAGNETOCHEMISTRY

Photoinduced Charge Transfer in Molecular Materials Studied by Optical Absorption Using Photoacoustic Spectroscopy[1]

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Abstract—Photoacoustic spectra of molecular materials based on the assembling of the $[Fe(CN)_6]$ molecular block were recorded and evaluated. Those compositions where the valence of the involved metals allows a charge transfer (an inner photoinduced redox reaction) through the CN ligand shown an intense photoacoustic signal around 600 nm; when this transition is unable only the signal corresponding to metal-to-ligand and d–d transitions within the metal were observed. This suggests that this technique provides a fast and reliable method to explore the existence of tunable photoinduced charge transfer in molecular materials.