

SPECTROSCOPIC INVESTIGATION OF THE EFFECTS OF ENVIRONMENT ON NEWLY DEVELOPED EMISSIVE MATERIALS

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A comprehensive spectroscopic analysis of recently synthesized novel emissive materials, such as perylene diimide nanostructures, pincer complexes, and newly developed dyes, provides insight into how to modify these materials to be better suited for applications in photovoltaics and photodiodes. Properties of interest in this study include fluorescence emission, fluorescence lifetime, and quantum yield.

Tracking how the photophysics of a compound change as different environments are introduced to the system helps to develop a better understanding of the fundamental photophysical properties of the material. Both solid phase and samples in solution are examined on the bulk and single molecule level.