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## Optical Sensing Properties of Pyrene-Schiff Bases toward Different Acids

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### Abstract

A set of (4-substituted-phenyl)-pyren-1-ylmethylene-amine (PMA) was prepared by the reaction of pyrene-1-carboxaldehyde and the corresponding 4-substituted aniline. The structure of the PMA compounds were confirmed by spectroscopic data (IR, (HNMR)-H-1, (CNMR)-C-13, ISI-MS and elemental analysis. The structure of (4-bromo-phenyl)-pyren-1-ylmethylene-amine (BrPMA) was further confirmed by the single X-ray crystallography. The absorption and emission spectroscopic behaviors were investigated in variant acids. The compounds showed dramatic spectroscopic changes upon acidifying with strong acids and negligible effects when weak acids are used in the acidifications. Hence, the PMA compounds can be used as sensors to distinguish between weak and strong acids.

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