

Investigation of Mutagenicity and DNA Binding Properties of Metal-Free and Metallophthalocyanines Containing α -Naphtholbenzein Groups on the Peripheral Positions

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Abstract : In this work, phthalocyanine compounds containing α -naphtholbenzeinunits have been synthesized. Mutagenicity and DNA binding properties of the compounds were investigated by Salmonella/Microsome Assay and spectrophotometer. According to the results of the preliminary range finding tests, the compounds gave no toxic effect to all tester strain S. typhimurium TA98 and TA100 at doses of 500, 1100, 350, 500 and 750 μ g/plate in the presence and absence of S9, respectively. This study showed that all compounds exhibited efficient DNA-binding activity. In conclusion, these non-toxic compounds may be used as effective DNA dyes for molecular biology studies.

Keywords : dye, mutagenicity, phthalocyanine, toxicity

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