



A Chromogenic Chemosensor Based on a Complex of Di-Hydroxymethyl-Di-2-(Pyrrolyl)Methane and 7,7,8,8-Tetracyanoquinodimethane for the Detection of Captopril

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SUMMARY. Di-hydroxymethyl-di-2-(pyrrolyl)methane (DMPM) and 7,7,8,8-tetracyanoquinodimethane (TCNQ) were dissolved in acetonitrile to form a π - π charge-transfer complex, which exhibits a deep blue color. This complex is decomposed with the addition of captopril. It was possible to observe a change from the vivid blue color to pale orange-yellow, which is related to the formation of a new n - π complex between TCNQ and captopril. The formation kinetics of the complex between DMPM and TCNQ in acetonitrile was studied, it being concluded that the interaction between the two compounds is a photochemical process. Spectrophotometric titrations of TCNQ with DMPM were carried out and the results demonstrated that, in acetonitrile, the complex formed comprises one molecule of TCNQ for two of DMPM while in an acetonitrile:water mixture (9:1; v/v) a change to a 1:1 stoichiometry was observed.

KEY WORDS: Captopril, Chromogenic chemosensors, Displacement assay, Naked-eye detection, TCNQ.

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