

ANTIOXYDANT ACTIVITY OF DITHIOLETHIONES: EVALUATION OF REDUCING POWER

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ABSTRACT :

Dithiolethiones compounds found in cruciferous vegetables increase the rate of detoxification chemical carcinogens. These plants contain substantial concentrations of dithiolethiones, indoles, and isothiocyanates, each of which has been proposed to account for chemoprotection [1]. The aim of this study was to evaluate the reducing ability, the Fe^{+3}/Fe^{+2} transformation in the presence of dithiolethiones [cation methylthio-3 tolyl-4 dithiole-1,2 ylium *contre-ion I* **MTTD(I)** and cation methylthio-3 phenyl-4 dithiole-1,2 ylium *contre-ion MeSO₄⁻* **MTPD(MeSO₄⁻)**]. The reducing capacity of a compound may serve as a significant indicator of its potential. Therefore, the Fe^{+2} can be monitored by measuring the formation of Perl's Prussian blue at 700 nm. Ascorbic acid was used as standard and positive control for this analysis. Our results showed that the reduction activity of two compounds is generally proportional to the concentration, in this work; the both derivatives of dithiolethiones were characterized by a high reduction power. The **MTPD(MeSO₄⁻)** show a potential reduction power than that of **MTTD(I)**. At a concentration of 0.08 g/l, the reduction power of **MTTD(I)** expressed an absorbance is close to values observed for ascorbic acid 0.585 and 0.645 respectively.

KEY WORDS: Dithiolethiones, Antioxidant Activity, Chemoprotection.