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Model estimation of toxicity of quinone compounds due to their attack on the protein SH-group

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Abstract

Model reaction between *N,N'*-diphenyl-1,4-benzoquinonediimine and 2-mercaptobenzothiazole was proposed to assess the activity of quinone compounds in the reaction with thiols. The kinetics of the reaction was studied in chlorobenzene at 343 K. The reaction order with respect to the components was determined, experiments in the presence of an initiator proved that the reaction proceeds via the chain mechanism with a chain length of ~10 units. The effect of 2-mercaptobenzothiazole additives on the kinetics of *N,N'*-diphenyl-1,4-benzohinondiimina accumulation in reaction between initiator and *N,N'*-diphenyl-1,4-phenylenediamine was studied.