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## The study of the toxicity of some of the benzimidazole derivatives

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## Abstract

The toxicity of benzimidazole, 2-methylbenzimidazole, 2-benzylbenzimidazole and 1,2-dibenzylbenzimidazole (I-IV) in aqueous solutions for Paramecium caudatum and Allium cepa and Allium cepa mutagenicity are studied. Calculated physico-chemical parameters of the studied compounds indicate that the toxicity and mutagenicity of I-IV correlated with their lipophilicity and molecular volume. It is likely that increasing the lipophilicity of I to IV leads to a corresponding increase in the degree of mutagenicity, as more molecules I-IV can bind to DNA by intercalation mechanism. Toxicity and mutagenicity I-IV for Paramecium caudatum and Allium cepa are dose-dependent. Calculated physico-chemical parameters of the studied compounds indicate that the toxicity and mutagenicity correlated with their lipophilicity and molecular volume.