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Synthesis and UV spectral studies of substituted 2-(L-arabino-tetritol-1-yl) benzimidazole analogs: Quantitative structure activity relationships (QSAR)

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Benzimidazoles are compounds of wide range of biological activity. The benzimidazole nucleus in general, is an important synthetic strategy in drug discovery. Structure activity relationshipS (SAR) have indicated that there is a relationship between the inductive effect of the substituent and the biological activity of benzimidazoles. A series of substituted 2-(L-*arabino*-tetritol-1-yl) benzimidazole analogs with different substituents having electron attracting or electron release properties at the benzimidazole base moiety was prepared. A correlation between the inductive effect of the substituent and its spectral properties at the UV and NMR spectra were obtained. Quantitative structure activity relationship (QSAR) of the substituted benzimidazole analogs was determined. Twelve test bacteria representing three groups of bacteria were used to evaluate the biological activity of the compounds.

Biography

Mohammed A E Sallam is working as Professor of Organic Chemistry Faculty of Science, Alexandria University. He got his PhD from Alexandria University. Then he got several Postdoctral fellowships and Visiting Scientist at Biochemistry Department Purdue University, Medicinal Chemistry, Michigan State University, Medicinal Chemistry, Ohio State University, Department of Chemistry, University of Trondheim, Norway. He is Board editor at several Journals; *J. of Carbohydrate Chemistry*, 1983-2000, *Green and sustainable Chemistry, GSC,* 2011-prewsent, and *Vitamins and Minerals Reports,* November 2013- present His Major field is Carbohydrates and C-nucleosides.

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