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Chromatographic Evaluation of the Lipophilic Properties of Some Derivated Acridin-9(10*H*)-one

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Lipophilicities of the s-derivatives of 10-((5-mercapto-1,3,4-oxadiazol-2-yl)methyl)-2R-acridine-9(10H)-ones have been studied by various chromatographic methods and the results were compared with those obtained from the distribution method in binary n-octanol/water system. The linear relationships between the chromatographic parameters (t_R, R_M, $logk_W$) of six reference substances and the newly synthesized compounds versus index of lipophilicity were determined. The parameters of lipophilicity obtained from the chromatographic methods ($logP_{GCMS}$, $logP_{TLC}$, $logP_{LCMS}$) for new compounds were obtained by extrapolation. A correlation matrix was established between the experimental and calculated values of logP and found high correlation values between high performance liquid chromatography, the method of "shake flask" and theoretically calculated lipophilicity. The most rapid methods for determining lipophilicity, which provide high correlation coefficients between the theoretically calculated lipophilicity indices, are proposed.

Keywords: lipophilicity, acridine-9(10H)-one, 1,3,4-oxadiazole-2-thione, n-octanol, thin-layer chromatography, GCMS, LCMS