

**The synthesis of the PhD. thesis entitled ” The lipophilicity determination of some antioxidants and sweeteners by chromatographic and computational methods”**

In the presented PhD. thesis the lipophilicity of some lipophilic vitamins, flavonoids and sweeteners was investigated by liquid chromatography and thin-layer chromatography. The lipophilicity has been observed on different chemically bonded stationary phases. Furthermore, the thin layer chromatography allowed the introduction of a large number of new stationary phases obtained by silica gel impregnation with vegetal and animal fats, which might present better similarities with the biological membranes. The results were analyzed through advanced statistical techniques involving multiple regression methodologies. Moreover, the classification of the investigated compounds and chromatographic stationary phases was performed by the principal component analysis, which gave also information about the retention mechanism.