Downscaling ion-association solvent extraction for tetracycline determination with RGB color detection system
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Abstract: Downscaling liquid-liquid micro solvent extraction of tetracyclines based on ion-association was studied. It is based on the formation of a yellow color ion associate of a protonated cation of tetracycline with anionic form of organic dye which could be extracted into dichloromethane. It is performed in microliter scale using RGB color system for direct detection after phase separation in small PCR tube by compact instrument which could be connected with the application in mobile phone. The parameters which affected on extraction efficiency were studied. The method was then applied for determination of tetracyclines in commercial pharmaceutical samples. It is an alternative way for downscaling of chemical analysis, cost effective determination method and reducing of solvent consumption and operating time.

Keywords: Tetracyclines; Ion-association; RGB color