

UV spectrophotometry: A novel trend in separation techniques

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The quantitative analysis is the everyday-mission of analysts. Whenever you are testing the pharmacological efficiency of newly discovered molecules, extracts of plant/animal origin, or you are designing a new delivery system to target certain cells, you will be in need of an accurate, sensitive analytical method capable of separating, identifying and quantifying the component of interest. For several decades, chromatography was the technique of choice for most researchers around the globe. However, there was an urge to find an alternative to chromatographic techniques to be of less cost and more eco-friendly. Recently, the spectrophotometric analysis has attracted the attentions of researchers all over the world through introducing new ideas and merging smart mathematical calculations. This leads to a huge leap in its applications, where it turned from analysis of simple mixtures into smart multi-step manipulations capable of solving complex matrices. That is why spectrophotometric analysis was found to be a good alternative to chromatographic ones with reasonable cost and less impact on the environment through the usage of green solvents. Newly-developed methods had the advantage of resolving the mixture of the drugs with overlapped spectra to get the resolved or recovered zero order absorption spectrum of each drug separately and therefore they can be tested for purity too.