

Spectroscopy analytical techniques for dual purpose in Medicine products

Bozhou XU

Abstract

Medicine and food twin purpose product area unit the necessary natural resources in China. there's associate degree increasing want for brand new analytical strategies that may be used for reassuring safety and quality in drugs and food twin purpose product, as well as adulterants, chemical residues and unknown useful elements. during this work, recent applications of UPC2 for the analysis of various compounds in food and biological samples were reviewed. A simple, sensitive and quick analytical methodology supported UPC2 with photo-diode array detection (PDA) has been developed to quantify sulfonamides, carbohydrate and structural analogues of isoflavones compound in drugs and food twin purpose product. The soft ionization fragmentation pathway supported mass spectrum analysis has been processed for the determination of diosgenin in drugs and food twin purpose product. moreover, authentication technology supported fragment markers and high resolution mass spectrum analysis was developed for the standard assurance in drugs and food twin purpose product. the event of the prescription drugs brought a revolution in human health. These prescription drugs would serve their intent providing ar[they're} free from impurities Associate in Nursingd are administered in an acceptable quantity. to create medicine serve their purpose varied chemical and instrumental ways were developed at regular intervals that ar concerned within the estimation of medication. These pharmaceuticals may develop impurities at various stages of their development, transportation and storage which makes the pharmaceutical risky to be administered thus they must be detected and quantitated. For this analytical instrumentation and methods play an important role. This review highlights the role of the analytical instrumentation and the analytical methods in assessing the quality of the drugs. The review highlights a variety of analytical techniques such as titrimetric, chromatographic, spectroscopic, electrophoretic, and electrochemical and their corresponding methods that have been applied in the analysis of pharmaceuticals.

All the analytical techniques wont to collect chemical science knowledge obtained by riveting, transmission or reflective the incident energy during a sample ar referred to as spectrophotometry. Among these analytical techniques, there's the sunshine absorption spectroscopic analysis within the Ultraviolet and visual region (UV-Vis) (200-800nm) together of the foremost used technique for the characterization and determination of many organic and inorganic substances. The UV-Vis analytical technique has become important and widespread in numerous scientific areas round the world because of its handiness, simplicity, flexibility and wide relevance in many areas, together with organic chemistry and analytical chemistry. Currently, it's necessary to cut back sample Associate in Nursingd reagents amount to develop an analytical mensuration, particularly for scarce samples or unhealthful solvents; therefore a UV-Vis microvolume spectrometric instrumentation has been developed. Currently, spectroscopy techniques and chemometric methods are largely used in the food industry analyses to improve quality control of foods and beverages, such as: detection of falsification or adulteration, identification of origin, differentiation of caffeinated and decaffeinated coffee, origin and variety of wine or the origin of olive oils, and others. This study presents a bibliographic review in order to evaluate the effectiveness and the relevance of using the analytical technique of molecular spectrophotometry in the Ultraviolet and Visible region in the food industry. The spectroscopy in the visible ultraviolet region is a very useful technique for qualitative and/or quantitative studies related to characterization of organic and inorganic compounds in food matrices. Its application in quality laboratories of food industries has been very important, because it satisfies both the economic scope and the public health issues, since it allows the quality verification of various products widely commercialized and consumed around the world.

This work is partly presented at joint event 30th Annual Congress on Nanotechnology and Nanomaterials & 8th World Congress on Spectroscopy and Analytical Techniques, September 10 - 11, 2019, Stockholm, Sweden

Bozhou XU

Chinese Academy of Inspection and Quarantine, China, E-mail: bozhoux@126.com