

ABSTRACT

The purpose of the study was to develop a colorimetric smart phone based technique which would be as precise and accurate as UV - Vis spectroscopy, so that, it could be used to detect the presence as well as concentration of any lethal drug or medicine. In most of the criminal cases, the cause of death (COD) of the victims were the prescribed medicines, particularly those used to treat the cardiovascular disorders, which could be led to the cardiac arrest, if used improperly, and ultimately to the death of the patients. In the present work, permanganate (KMnO_4) and ferric chloride (FeCl_3) were used to prepare the colored complexes of Azithromycin (AZ) and Ciprofloxacin (CIP) respectively. AZ and CIP were taken in their pharmaceutical dosage forms (capsules). In the daylight, Carolina Color Piker smart phone app was used to carry out their RGB assay. The significance F - test was used to compare the standard deviations or variances of the novel colorimetric method and UV - Vis spectroscopy. The proposed method possessed the ability to be utilized at the spot, thus, there would be no need to take the samples to remote laboratories for analysis. Over and above that, it would be a simple, economical, and ecological method and would be provided better results to play a vital role in the field of forensic science.