

Development of mobile photometer for DNA quantitation using UV-LED.

Wednesday, June 8, 2016 11:30 AM (15 minutes)

Light as electromagnetic wave when travelling through a liquid solution, it could perturb and interact with molecules in that solution. DNA absorbs light specifically at 260 nm. The absorbance is related to DNA concentration through Beer-Lambert law of absorption. This relationship is a common basis of DNA quantification in spectrophotometers. A bulky deuterium lamp or halogen lamp is commonly used as 260-nm light source. Their use has limited the mobility of spectrophotometer. UV-LED is an alternative light source with light weight and more compact in size. In this work, we have developed 260-nm LED and a photo-diode as a compact and mobile photometer. At present, the development is still in its early stage. Some experimental results of DNA quantification are reported in this conference.

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Session Classification: Session V

Track Classification: Instrumentation, Metrology and Standards