

Colorimetric method for the determination of unilamellar liposomes produced by microfluidic flow focusing device

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Colorimetry is a simple technique which is used to determine the concentration of chemical or biological compounds in solution based on the color or the absorbance of the sample. In this research, we used colorimetry to quantify the concentration of liposomes. Liposomes were made from single lipid molecules, 1,2-dimyristoyl-sn-glycero-3-phosphoethanolamine (DMPE). Microfluidic flow focusing device was used to make liposomes having narrow size distribution and good colloidal stability. Reference solutions were made by serial dilution of liposome dispersion containing known concentration of DMPE, and standard curve was obtained from the result of absorbance measurement at 400 nm. The linearity of standard curve was acceptable in the range of interest, and it enabled the determination of unknown liposome concentration. Our method was used to confirm the increase in the concentration of liposomes by centrifugation.