

A high-performance liquid chromatography method for determination of flavonoids in dipalmitoylphosphatidylcholine liposome solutions

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A high-performance liquid chromatography (HPLC) method for the determination of four different flavonoids, rutin, morin, quercetin, and 3-hydroxyflavone in dipalmitoylphosphatidylcholine (DPPC) liposome solutions has been developed. The method allows to quantify their consumption upon reaction with singlet molecular oxygen. The actual HPLC method uses an isocratic elution and detection. The chromatographic separation of these components is achieved using a C18 analytical column with a water:acetonitrile:acetic acid mixture 74.5:24.5:1 v/v. The peaks for the four flavonoids are well resolved and free from matrix interference and reaction products. The method has been found to be linear ($r > 0.999$) over a wide concentration range and reliable to perform kinetic studies in which singlet molecular oxygen is involved and the time dependent consumption of flavonoids in a microorganized system composed by lipidic surfactants is monitored.