

## Detection of Proteinic Food Decomposition Using a Polydiacetylene Strip Sensor

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Diacetylene molecules have been of great interest to mimic the self-organization and functionalization of the cell membrane. Self-organization of diacetylene monomers into supramolecular assemblies gives rise to prepare polymerized liposomes and films by irradiation with 254nm UV light. Liposomes composed of polydiacetylene (PDA) have a unique characteristics that blue to red colorimetric transition and self-fluorescence by external stress including temperature, pH, solvent, and mechanical stress. Thus such PDAs characteristics can be used as biosensor and chemosensor.

In this study, we detect proteinic food decomposition using a polydiacetylene strip sensor. Polydiacetylene strip sensor is consisting of polydiacetylene liposome and polyvinyl alcohol (PVA) solution. The polydiacetylene is safe to handle and easy to check whether the place is polluted with toxic substance or not. When proteinic food is decomposes, ammonia gas is generated. Detection of ammonia gas by using polydiacetylene strip sensor was confirm from blue to red color transition. This results PDA strip sensor can be applied to various gas sensor.