

Characteristic of Polydiacetylene Supramoleculars upon Polymerization Temperature

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Photopolymerized diacetylene vesicles and Langmuir-Schaefer (LS) or Langmuir-Blodgett (LB) films are show a unique property that change color from blue to red upon environmental stimulus. In this study, we investigated the visible spectrum change characteristics by thermal stimulus of PCDA-ABA (10,12-pentacosadiynoic aminobutyric acid), in vesicle solution and LS-film which were polymerized in different temperatures (25 °C & 50 °C). Both vesicles and LS films (polymerization temp. = 25 °C) showed typical partially reversibility. However, LS films (polymerization temp. = 50 °C) showed complete irreversibility and vesicle solutions showed complete reversibility. The experiment was carried out by UV-Visible Spectroscopy and FTIR Spectroscopy.