

The pitch gradient study of Cholesteric Liquid crystals by Raman mapping and FTIR Imaging

Inseon Seo and Kigook Song

*Materials Research Center for Information Display, Kyung Hee University,
Yongin, Gyeonggi-do, 446-701, Korea*

Cholesteric liquid crystals have a unique ability that can selectively reflect light when the helical pitch is of the order of the wavelength of the incident beam propagating along the helix axis. The initial reflection bandwidth of CLCs is about 50nm, but it can broaden by having pitch gradient that be formed by approaches such as thermal diffusion or phase separation in the CLC cell. The pitch gradient was conventionally demonstrated and evaluated by TEM investigations of cross sections. But, we will investigate the pitch gradient by Raman mapping and FTIR imaging.

References (ACS format)

- 1) Hansoo Park, Beomkyung Kim, Whanki Kim, Insun Kim, and Kigook Song *Polymer(Korea)* **2006**, 30(2), 182-186
- 2) M. Belalia, M. Mitov, C. Bourgerette, A. krallafa, M. Belhakem, and D. Bormann *Physical Review* **2006**, 74(5), 051704

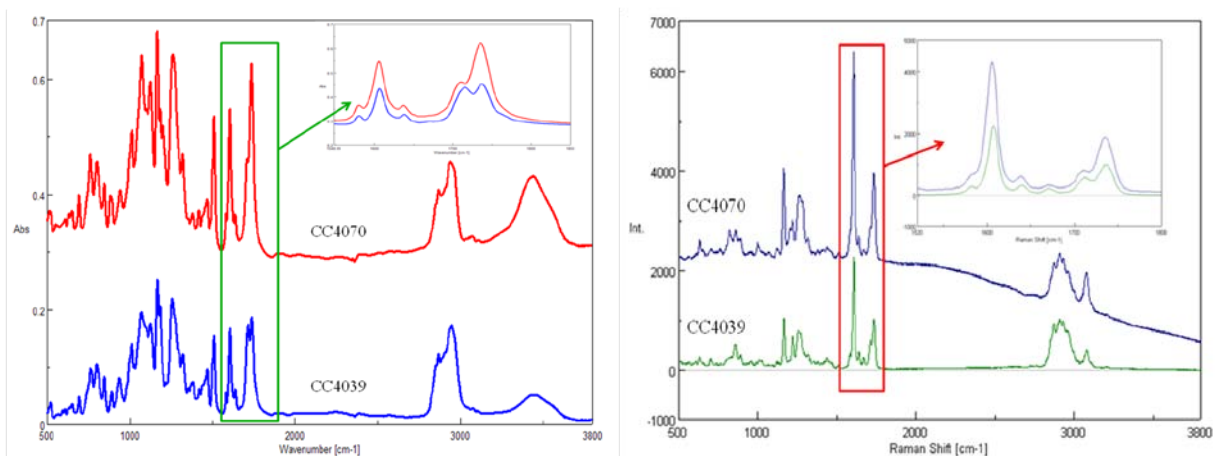


Figure 1. Raman and IR spectra of CLCs