Mol. Cryst. Liq. Cryst., Vol. 377, pp. 169-172

1058-725X/02 $12.00 + .00
DOI: 10.1080/10587250290088816

Morphology and Luminescence of Poly (*p*-Phenylene Vinylene) Films Prepared by Chemical Vapor Deposition

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The films of poly(*p*-phenylene vinylene) (PPV) were prepared by chemical vapor deposition (CVD) of α,α'-dichloro-*p*-xylene on the surface of crystalline silicon (001) wafer. Atomic force microscopy (AFM) and reflective IR were used for measuring the topographic images and the orientations of PPV chains, respectively. Photoluminescent (PL) property of the PPV films indicates that the details of PL spectrum are dependent on the thickness of the films deposited on the wafer surface. The UV-vis spectrum was also measured for the PPV films deposited on the amorphous quartz substrate.

Keywords: PPV; atomic force microscopy; photoluminescence; reflective IR; chemical vapor deposition; silicon wafer