

Vertical Alignment Material with Room Temperature Process in Liquid Crystal Display

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Abstract

In this work, we proposed a vertical alignment material only treated at room temperature. The liquid crystal cells made by proposed material show perfect electro-optical properties, such as voltage holding ratio, residual direct circuit voltage and so on, reaching the similar performance with polyimide. We also combined the material with sulphonic azo-dye (SD1) to fabricate the hybrid alignment nematic cells. We believe the material can be a good choice in the alignment technology of flexible liquid crystal display.

Author Keywords

Flexible display; Alignment material; Liquid crystal; Hybrid alignment nematic.

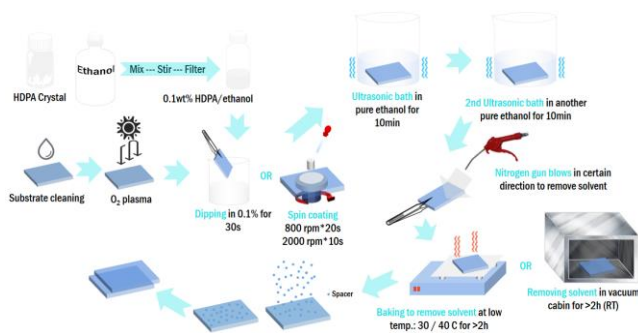


Fig. 1. The process flow of Dip-Wash of HDPa

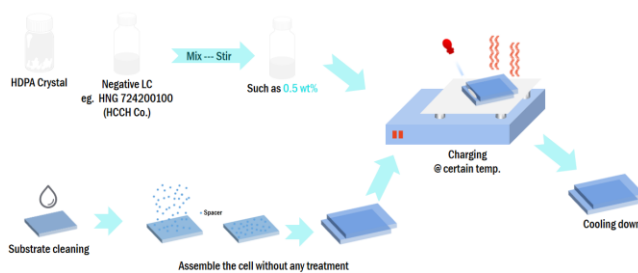
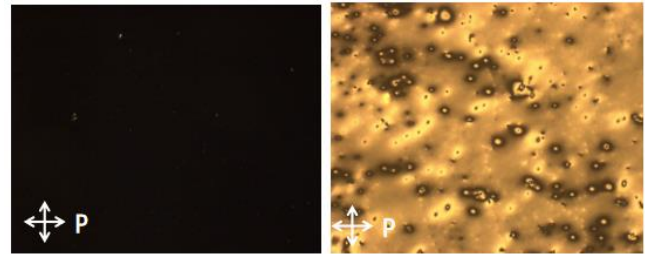


Fig. 2. The process flow of One-bottle of HDPa



(a) Off state

(b) On state

Fig. 3. The POM image of HDPa cell

Table 1. EO performance of HDPa

EO parameter	HDPa	PI4811
VHR	95.2%	96.4%
RDC	4.5mV	2.4mV

