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Properties and Characteristics of Novel Polyimide Alignment Layer for VA Mode

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Nowadays, LCDs are widely used as a information transfer media due to their big progress in mass production and the achievement of high performance. Their applications have been expanding to small and large size display. One major demerit of conventional LCDs is viewing angle. Several methods are developed or under research to solve this problem. One of the most strong candidates is Vertical Alignment(VA) mode which shows wide viewing angle, fast response time and high contrast ratio. It is necessary for related materials like alignment layer to be improved to achieve optimum driving condition of VA mode devices.

The key material in VA mode is alignment layer because alignment layer controls the movement of LC and generates pretilt angle. The level of requirements for alignment layer has risen steadily to attain high performance display.

Cheil Ind. Inc. has developed high performance alignment layer for VA mode.

The alignment layer has strong vertical aligning characteristics and storage stability.

It showed excellent processibility and low image sticking property when applied to LCDs. It also showed high voltage holding ratio(VHR) and low residual direct current(DC) value which are required to high performance devices.

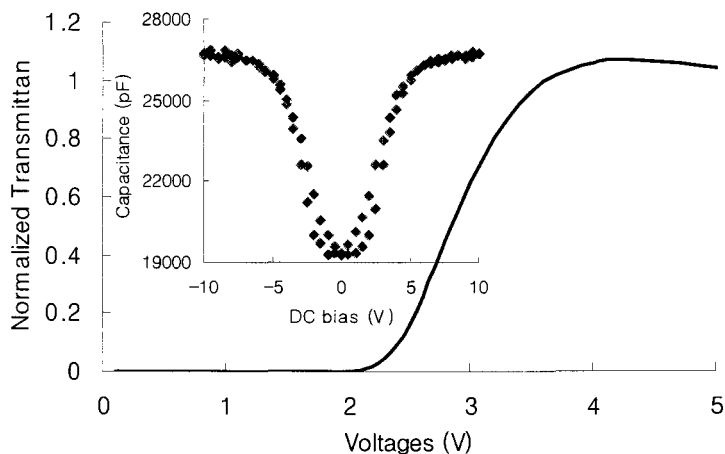


Figure 1. The V-T curve of alignment layer, Cheil Industries's. The inset shows C-V hysteresis

References

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