ITRI
Industrial Technology Research Institute

高效率量子點增益膜
High Efficiency Quantum Dot Enhanced Film

簡　介　Introduction

量子點為 LCD 帶來廣色域新視野。目前量子點以 CdSe 效率最優，惟仍有環保與生物相容性議題；相對環境友善的非鎘系則有效率不彰的問題。如何從增加效益來減少鎘系量子點的用量或是提升非鎘系的效益是業界共同的目標。

Quantum dots bring about a new era of LCD wide color gamut. Cadmium-based QD possesses excellent quantum efficiency, however, the environmental and health issues will hinder its future development. On the contrary, non-cadmium QD is environmental friendly but with poor efficiency. A fundamental approach of either raising the efficiency with less Cd-based QDs or improving the efficiency of non-Cd QDs is the common goal of the industry.

特　色　Features

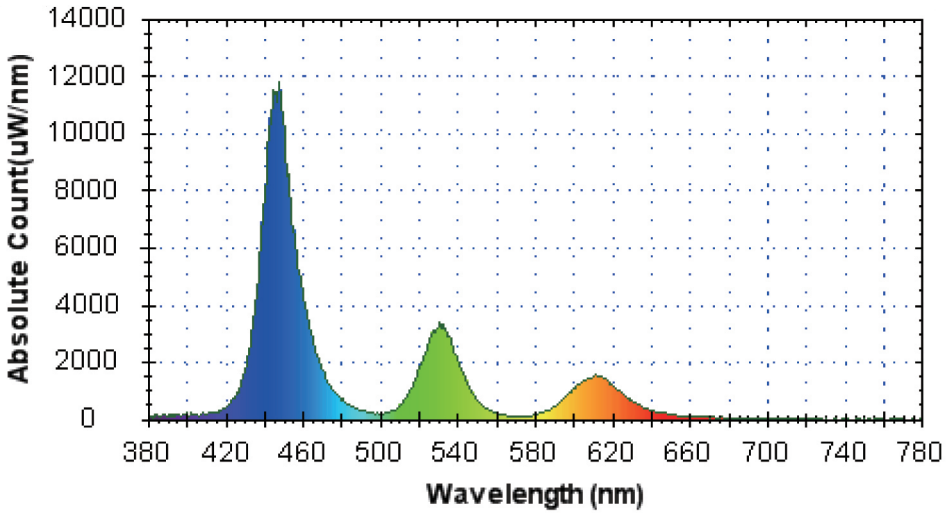
工研院材化所開發一種利用膽固醇液晶所形成的自組裝微共振腔 (μ-cavity) 來增益量子點效益的高效率功能薄膜。藉由優異的分散技術，相較商品 100μm，本功能薄膜僅 10μm，加上效率高，整體 QD 用量也減少，可望為昂貴的量子點帶來加速的未來。

ITRI/MCL is developing a quantum yield enhancement film by incorporating a novel self-assembly μ-cavity resonator provided by cholesteric liquid crystal.

- Thin QD film with only 10μm thick
- High quantum yield enhancement
- Cost reduction and environmental friendly

應　用　Applications

LCD Display、 Lighting



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