Supplementary Information for

Thin Film of Coumarin-3-carboxylate and Surfactant Co-intercalated Layered Double Hydroxide with Polarized Photoluminescence: A Joint Experimental and Molecular Dynamic Study

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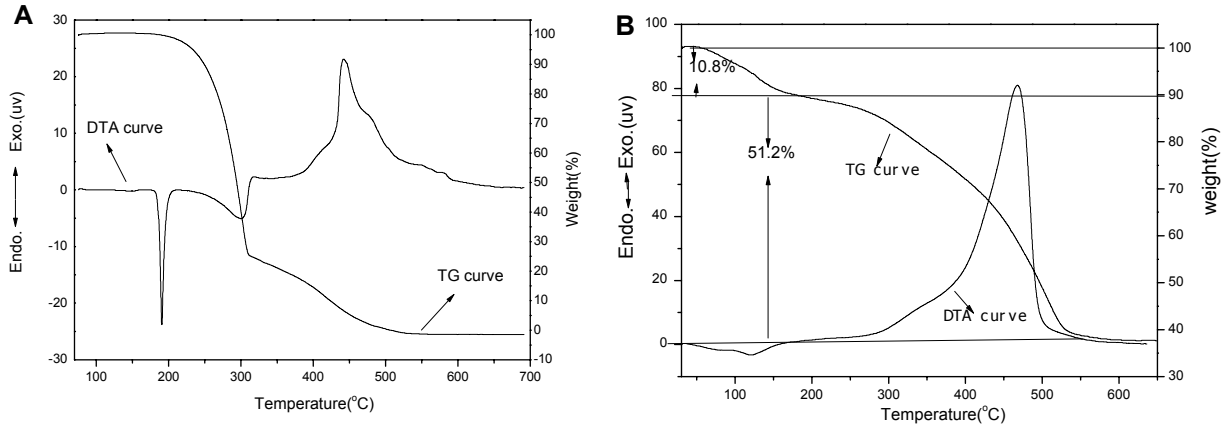


Figure S1.TG and DTA curves for A.C3C, B. C3C/Mg-Al-LDH.

Table S1: Chemical compositions for the two samples of C3C-DDS/LDH

Sample Initial x (%)	Chemical Composition	Mg/Al Ratio	Sample Final x (%)
25.0	$Mg_{0.697}Al_{0.303}(OH)_2(C_{10}H_5O_4)_{0.058}(C_{12}H_{25}SO_3)_{0.245}\cdot 0.97H_2O$	2.30	19.3
100.0	$Mg_{0.688}Al_{0.312}(OH)_2(C_{10}H_5O_4)_{0.312}\cdot 0.82H_2O$	2.21	100.0

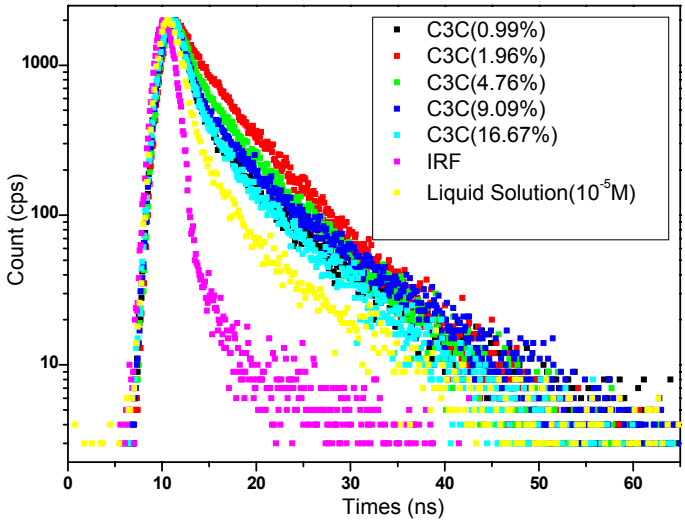
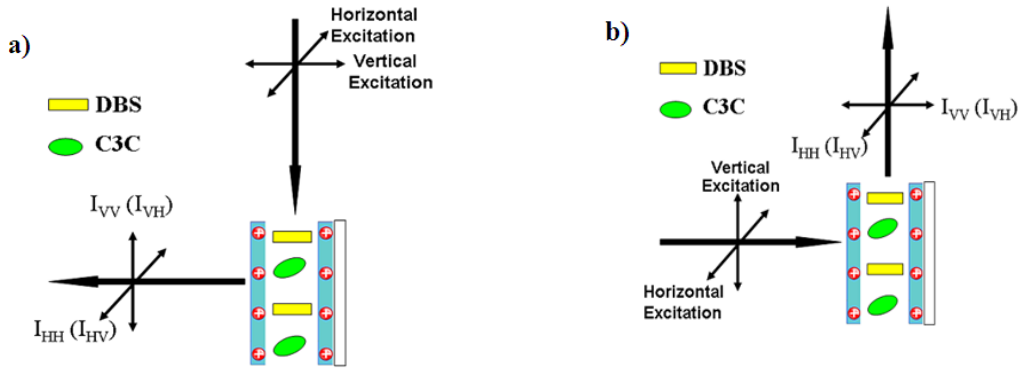
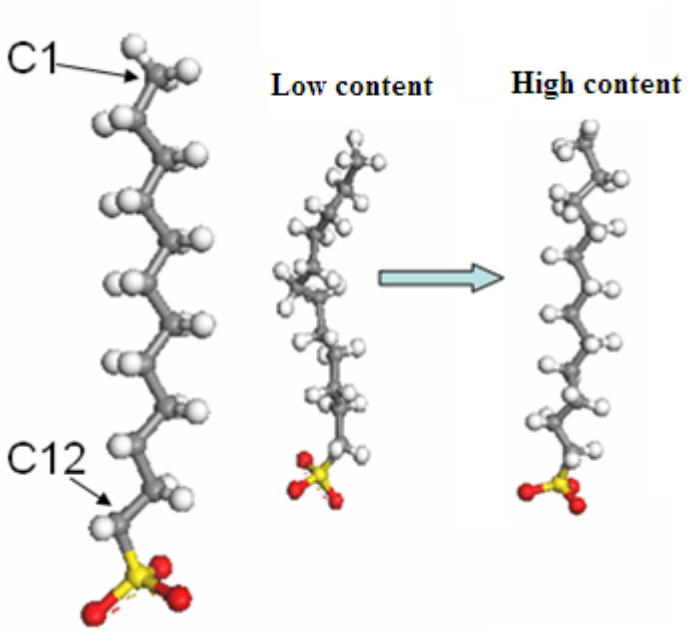


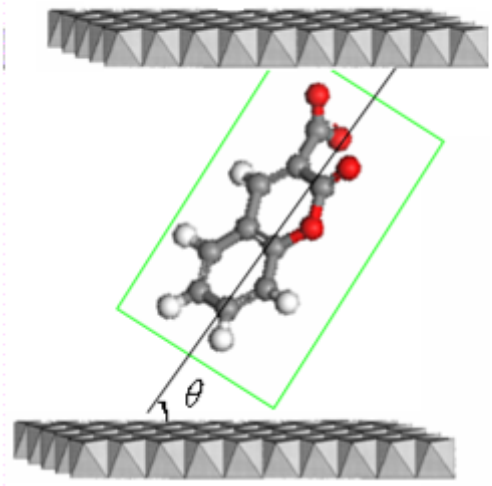
Figure S2. The fluorescence decay profiles of C3C-DDS/LDH (*x*%): *x*%= 0.99%, 1.96%, 4.76%, 9.09%, 16.67% respectively and pristine C3C solution (1×10^{-5} M). IRF: instrument response function.



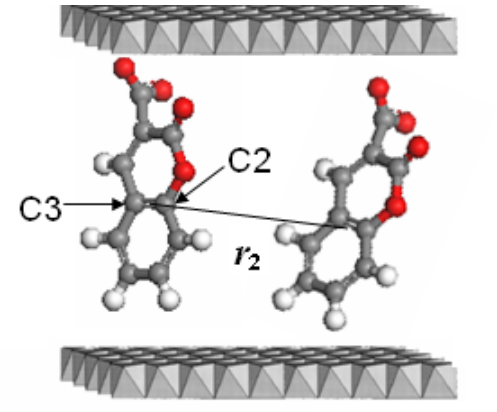
Scheme S1. Two typical measurement setups of polarized fluorescence: the incident excitation light run along the glancing (a) and normal direction (b) of the thin film for Figure 7.



Scheme S2. The scheme of the distance r_1 between C1 and C12 (the terminal C atoms) for Figure 10.



Scheme S3. The orientational angle θ (the plane of C3C with respect to the LDH layer) for Figure 11.



Scheme S4. The scheme of the average distance $<r_2>$ for Figure 12.