

Electronic Supplementary Information

Layered Photochromic Films Stacked from Spiropyran-modified Montmorillonite Nanosheets

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1. Photochromism of the decolored SP-6 aqueous solution (in SP form) under UV irradiation for different time (Figure S1).
2. Characterization of a film prepared by montmorillonite nanosheets exfoliated by only DODAB (without SP-6) (Figure S2).
3. ¹HNMR spectrum of SP-6 (Figure S3).
4. Mass spectrum of SP-6 (Figure S4).

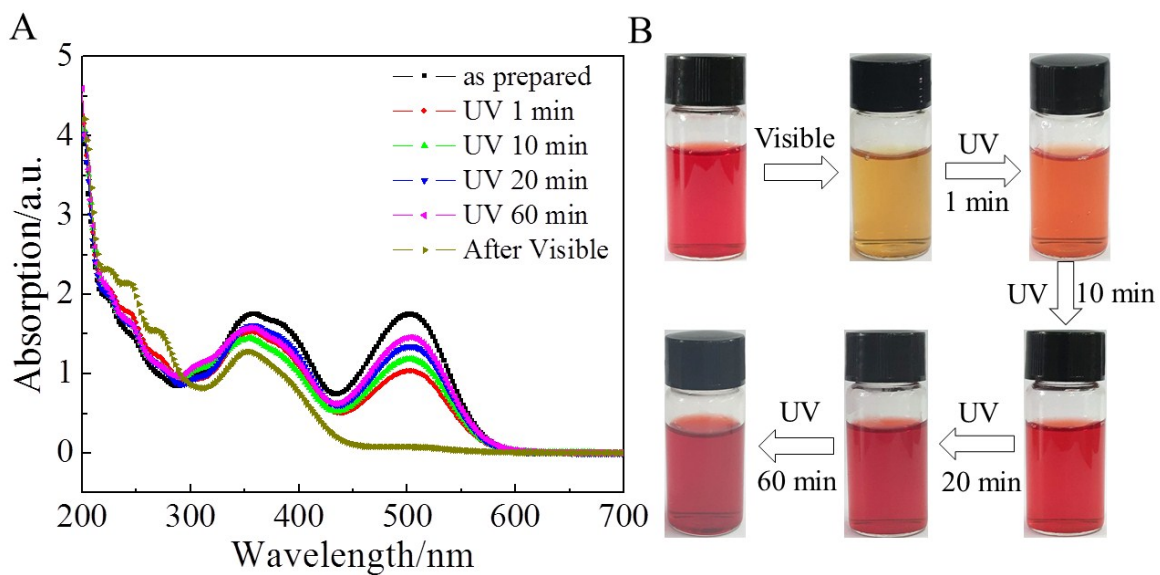


Figure S1. (A) The UV-visible absorption spectra for the as-prepared SP-6 solution, the SP-6 solution after visible illumination and the followed UV illumination for different time. (B) The corresponding visual color change of the solution.

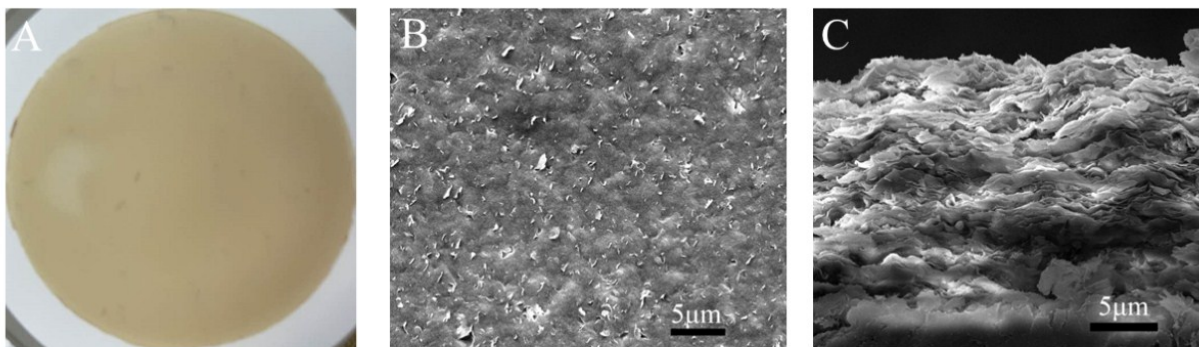


Figure S2. (A) A photograph of a film on nylon filter prepared by vacuum filtration of montmorillonite 2D nanosheets exfoliated by only DODAB (without SP-6). (B, C) The top-viewed (B) and cross-sectional (C) images of the film. The film showed a color of light yellow of native montmorillonite nanosheets.

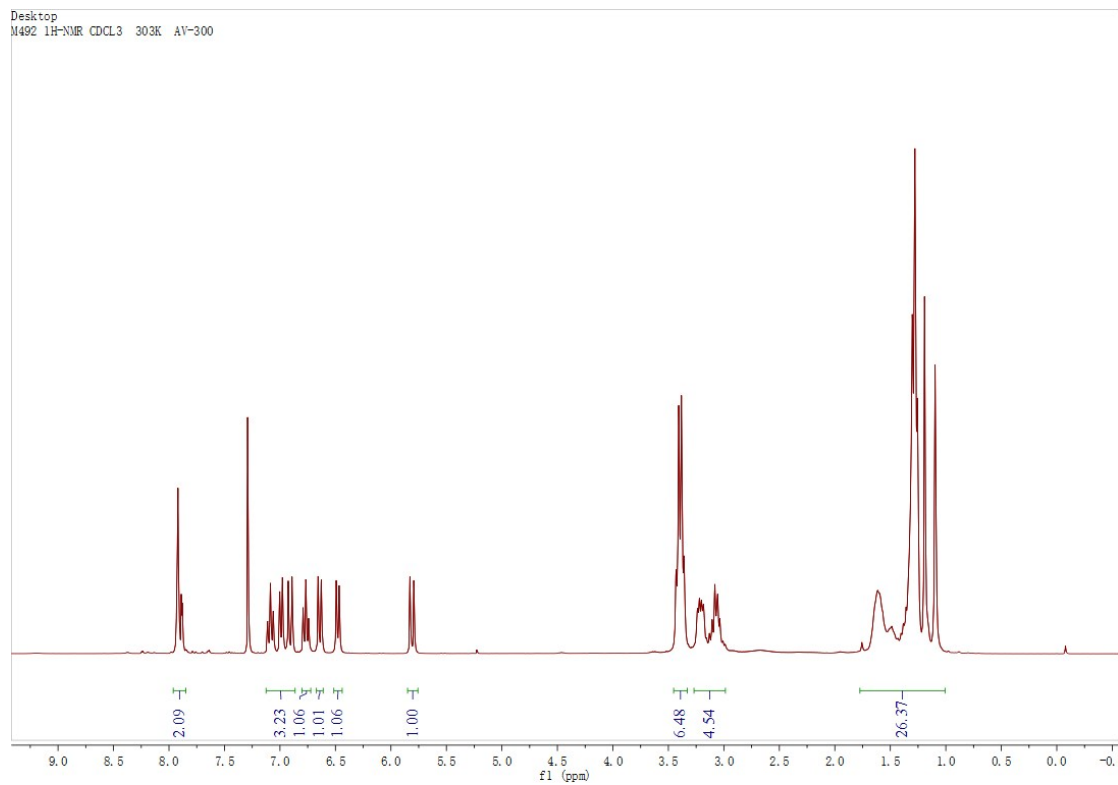


Figure S3. ¹H NMR spectrum of 1'-(6-triethylammoniohexyl)-3', 3'-dimethyl-6-nitrospiro (2H-1-benzopyran-2, 2'-indoline) bromide (SP-6) in CDCl₃.

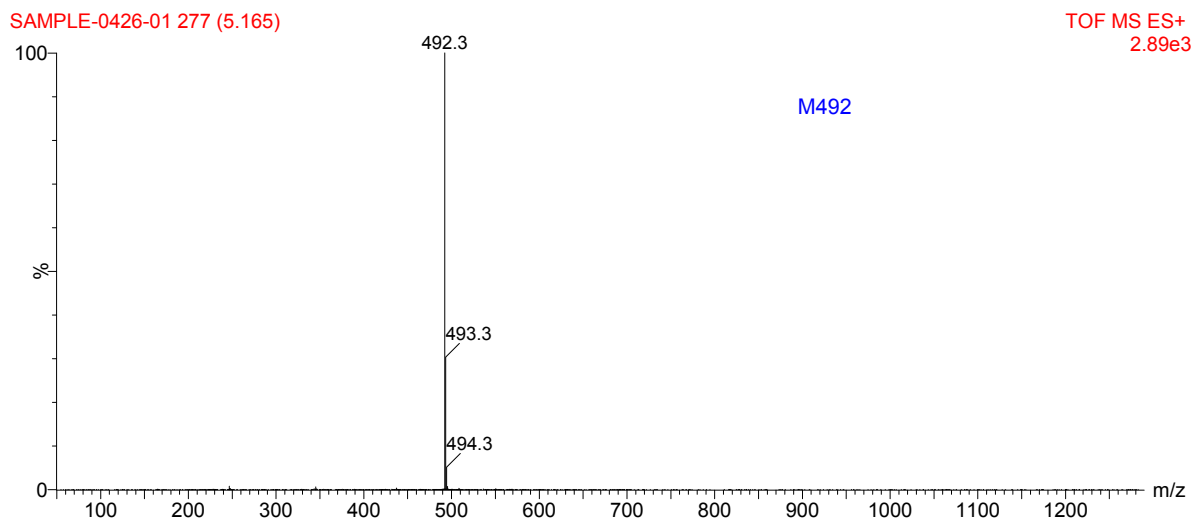


Figure S4. Mass spectrum of 1'-(6-triethylammoniohexyl)-3', 3'-dimethyl-6-nitrospiro (2H-1-benzopyran-2, 2'-indoline) bromide (SP-6).