

## Electronic Supplementary Information

# Photoinduced Self-assembly of Carboxylic Acid-Terminated Lamellar Silsesquioxane: Highly Functional Films for Attaching and Patterning Amino-based Ligands

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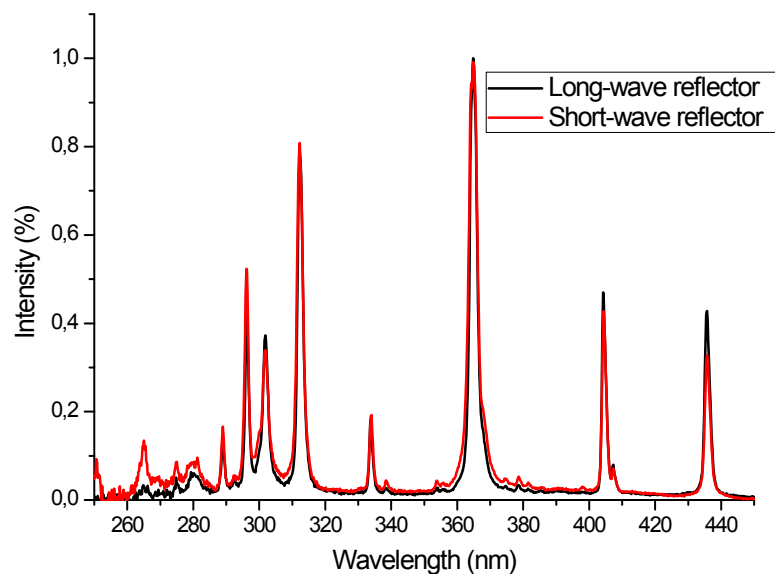
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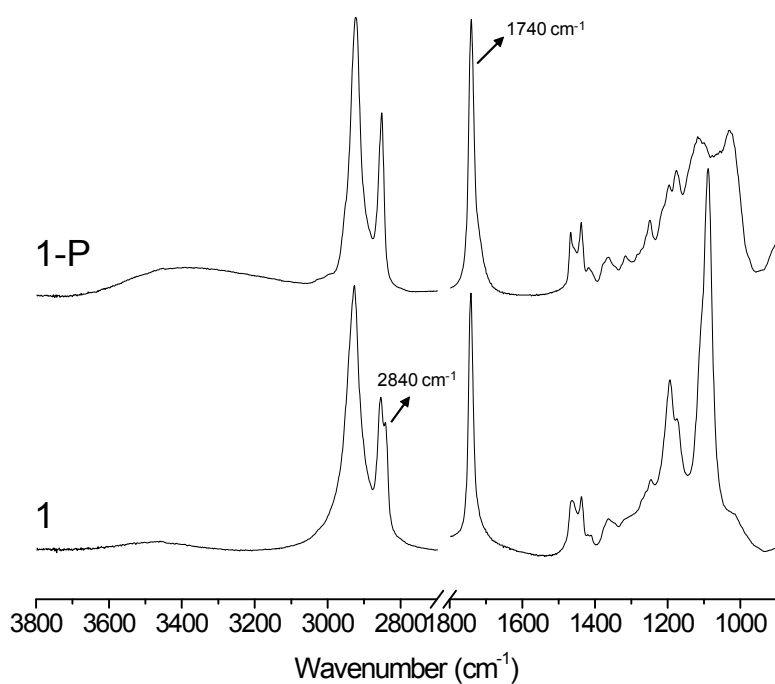
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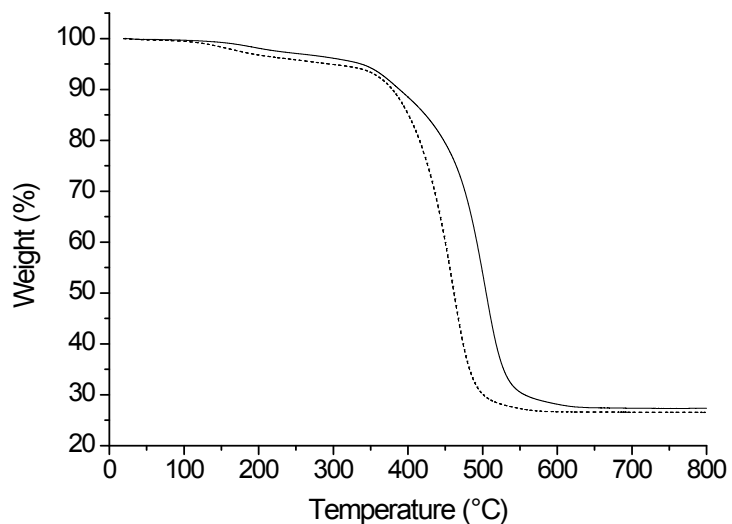
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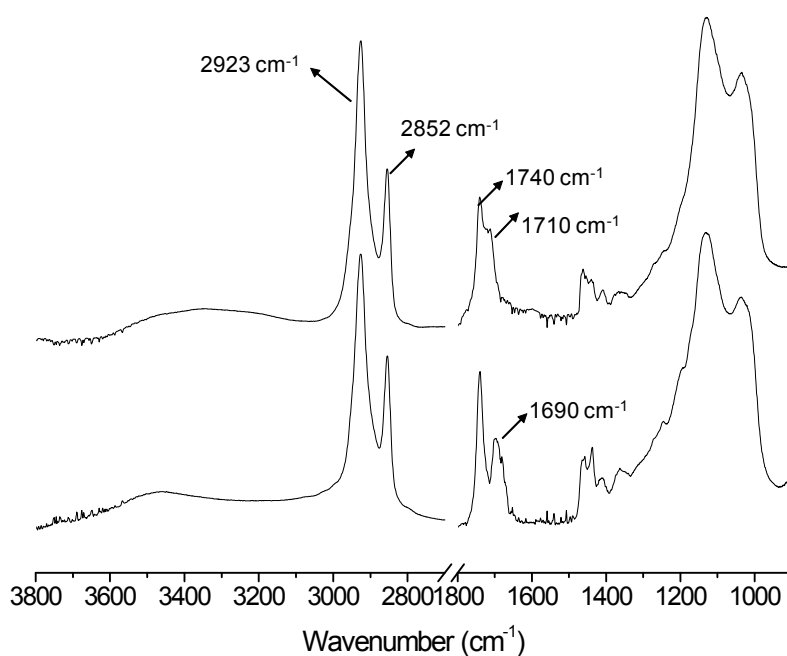
**Figure S1.** UV spectra of the medium-pressure Hg-Xe lamp with a short wave and a long wave reflectors at 254 nm and 365 nm, respectively.



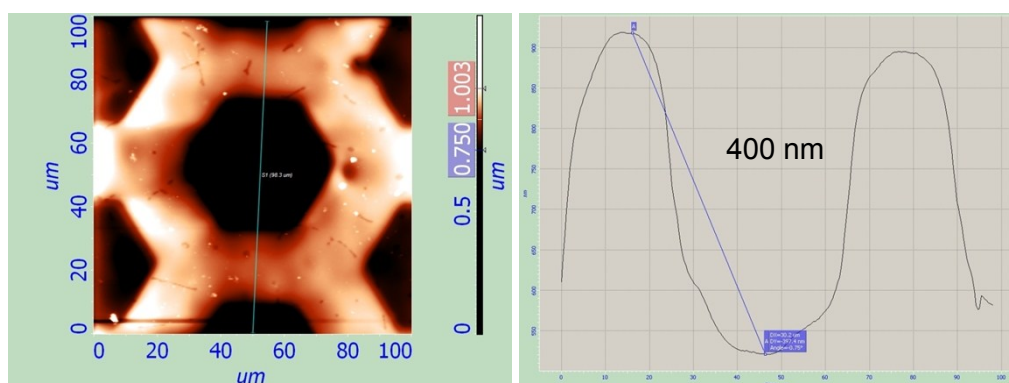
**Figure S2.** FTIR spectra of the precursor **1** and the nanocomposite film **1-P** obtained after UV irradiation



**Figure S3.** TGA thermograms of **1-P** (---) and **1-PH** (—) samples.



**Figure S4.** FTIR spectra of **1-PHL** film before (down) and after (up) photodegradation.



**Figure S5.** AFM 2D surface image of the photopatterned **1-PHL** film (left) and depth profile along the line drawn in the image (right).