Electronic Supplementary Material (ESI) for Journal of Materials Chemistry

Supplementary Material

A novel stable and efficient light-emitting solid based on saponite and luminescent POSS

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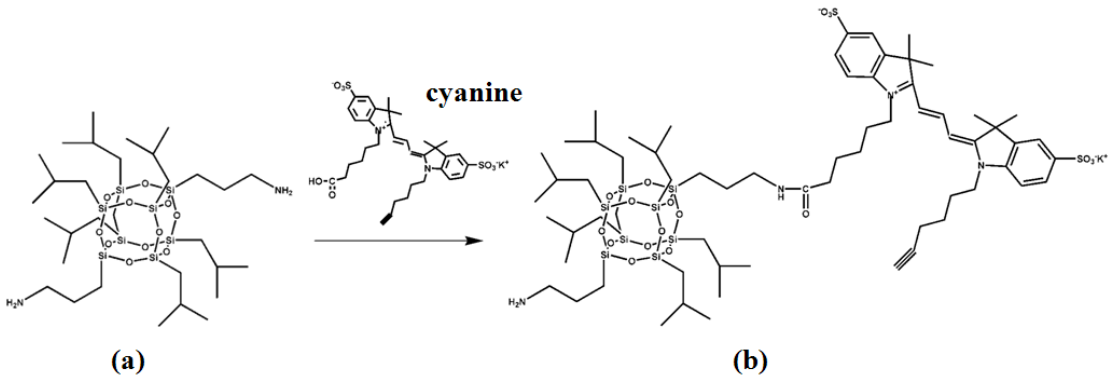
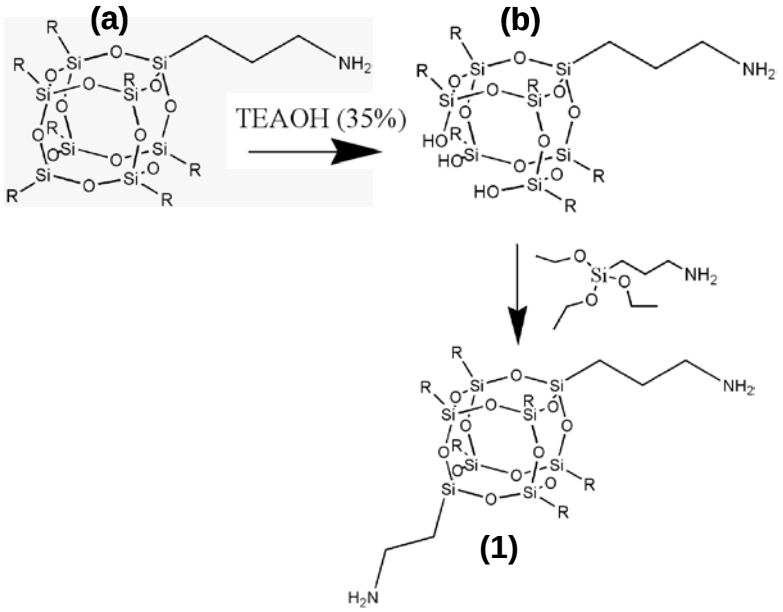
Figures and Schemes



Scheme S1. Schematic representation of the synthesis of IRIS3-POSS-NH_2 sample (b) starting from the diaminopropyl hexaisobutyl POSS (a).



Scheme S2. Schematic representation of the synthesis steps of diaminopropyl hexaisobutyl POSS (1). Completely condensed aminopropyl heptaisobutylPOSS and partially condensed aminopropyl hexaisobutyl POSS are represented in the scheme as (a) and (b), respectively.

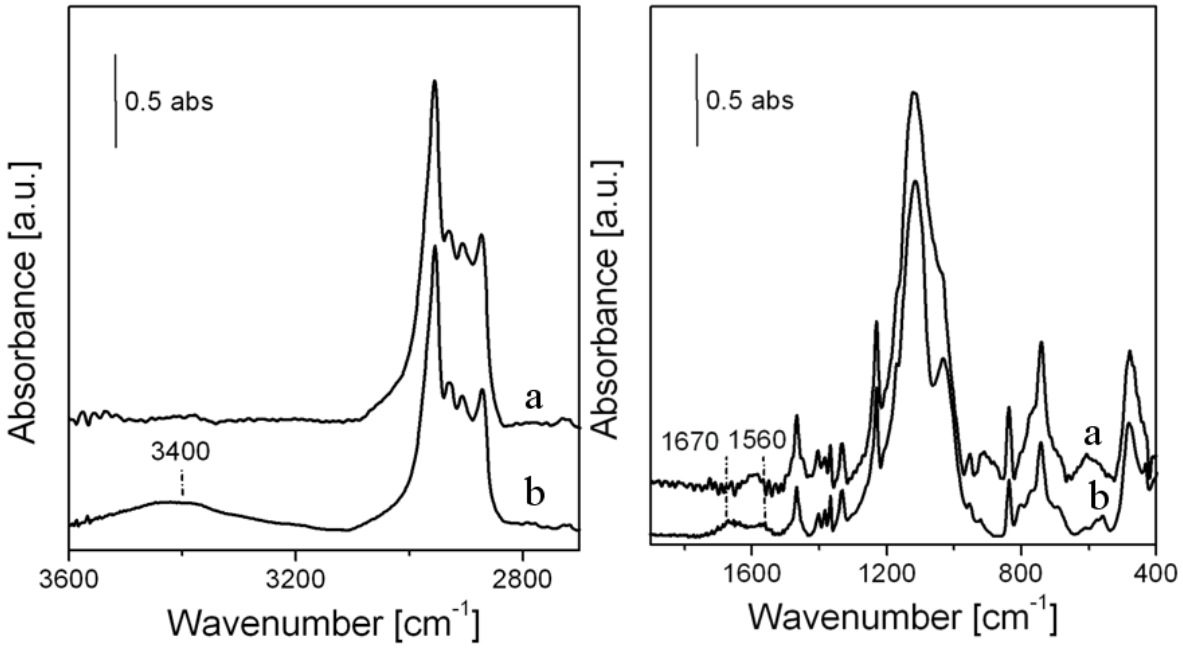


Fig. S1. IR spectra of diaminopropyl hexaisobutyl POSS (a) and IRIS3-POSS-NH_2 (b) samples in KBr matrix, in the 3600-2700 cm^{-1} (left) and 1800-400 cm^{-1} (right) ranges.

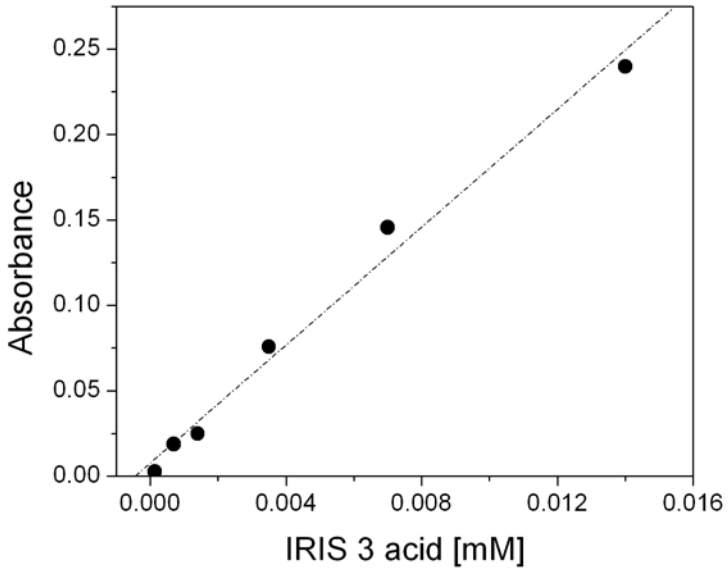


Fig. S2. Calibration curve made with UV-Visible data for IRIS3COOH in CH_3OH solvent. This curve was used to estimate the amount of cyanine dye anchored to the diaminopropyl isobutyl POSS molecules.

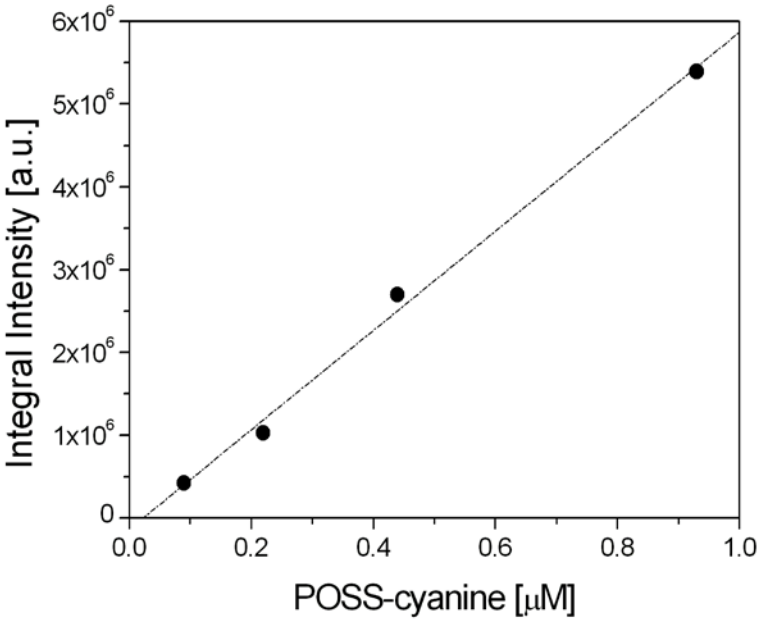


Fig. S3. Correlation between PL integral intensity and the concentration of different IRIS3-POSS-NH_2 solutions. Self-absorption phenomena for IRIS3-POSS-NH_2 dye are not present in this concentration range as indicated by the linearity relation reported in the figure.

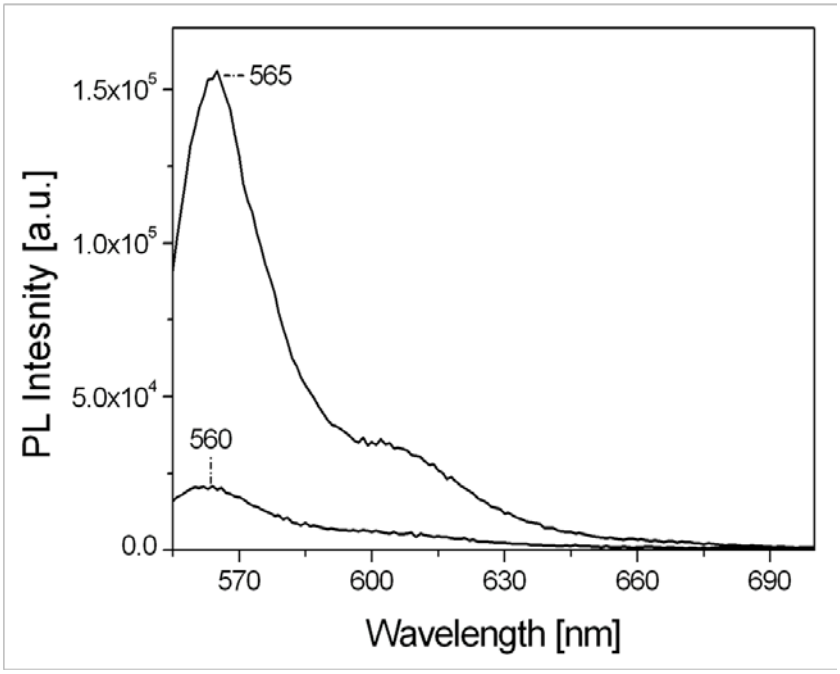


Fig. S4. Photoemission spectra of IRIS3NHS in CH_3OH (a) and after intercalation in saponite clay in THF (b) with the same concentration of dye (3 μM) and excitation wavelength of 550, respectively.