Electronic Supplementary Information

Scheme S1  Synthetic route of 1.

Fig. S1  Liquid-state $^1$H NMR spectrum of 7-(9-decenoxy)coumarin (500 MHz, in CDCl$_3$).

Fig. S2  Liquid-state $^1$H NMR spectrum of 1 (500 MHz, in CDCl$_3$).

Fig. S3  Liquid-state $^{13}$C NMR spectrum of 1 (125.65 MHz, in CDCl$_3$).

Fig. S4  Liquid-state $^{29}$Si NMR spectrum of 1 (99.25 MHz, in CDCl$_3$).

Fig. S5  FAB-MS spectrum of 1.

Fig. S6  Liquid-state $^1$H NMR spectra of the precursor solution after the reactions for (a) 15 min, (b) 30 min, (c) 45 min, and (d) 60 min.

Fig. S7  Liquid-state $^{29}$Si NMR spectra of the precursor solution after the reactions for (a) 20 min and (b) 50 min.

Fig. S8  $^{29}$Si MAS NMR spectrum of the hybrid obtained by the self-condensation of 1.

Fig. S9  2D XRD pattern of F1.

Fig. S10  Fluorescence emission spectra of (A) F1 and (B) D1 before and during photoirradiation (>310 nm).

Fig. S11  UV-vis absorption spectra of neat 1 before and during photoirradiation (>310 nm).
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**Fig. S10**  Fluorescence emission spectra of (A) F1 and (B) D1 before and during photoirradiation (≥310 nm).
Fig. S11  UV-vis absorption spectra of neat 1 before and during photoirradiation (λ>310 nm).