

Electronic Supplementary Information

Scheme S1 Synthetic route of **1**.

Fig. S1 Liquid-state ^1H NMR spectrum of 7-(9-deenoxy)coumarin (500 MHz, in CDCl_3).

Fig. S2 Liquid-state ^1H 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 ^1H NMR spectra of the precursor solution after the reactions for (a) 15 min, (b) 30 min, (c) 45 min, and (d) 60 min.

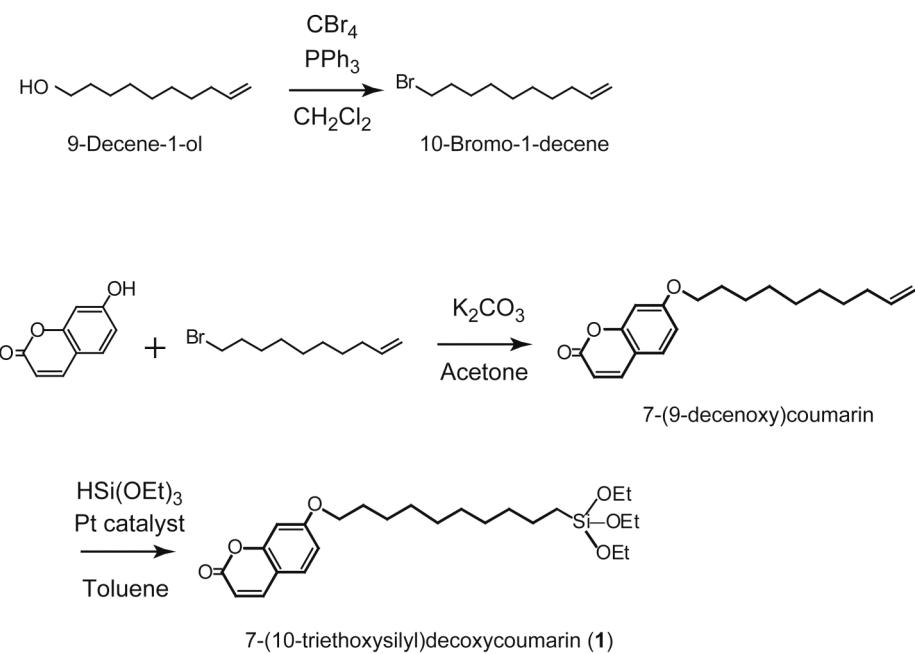
Fig. S7 Liquid-state ^{29}Si NMR spectra of the precursor solution after the reactions for (a) 20 min and (b) 50 min.

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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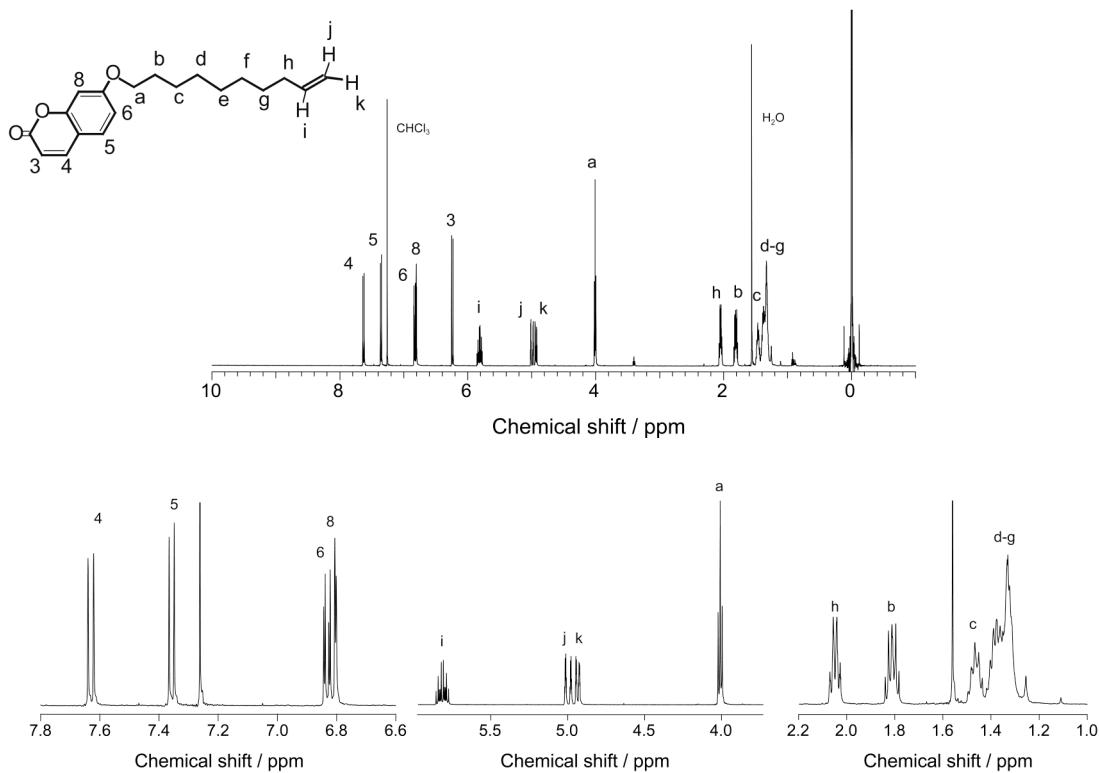


Fig. S1 Liquid-state ^1H NMR spectrum of 7-(9-decenoxy)coumarin (500 MHz, in CDCl_3).

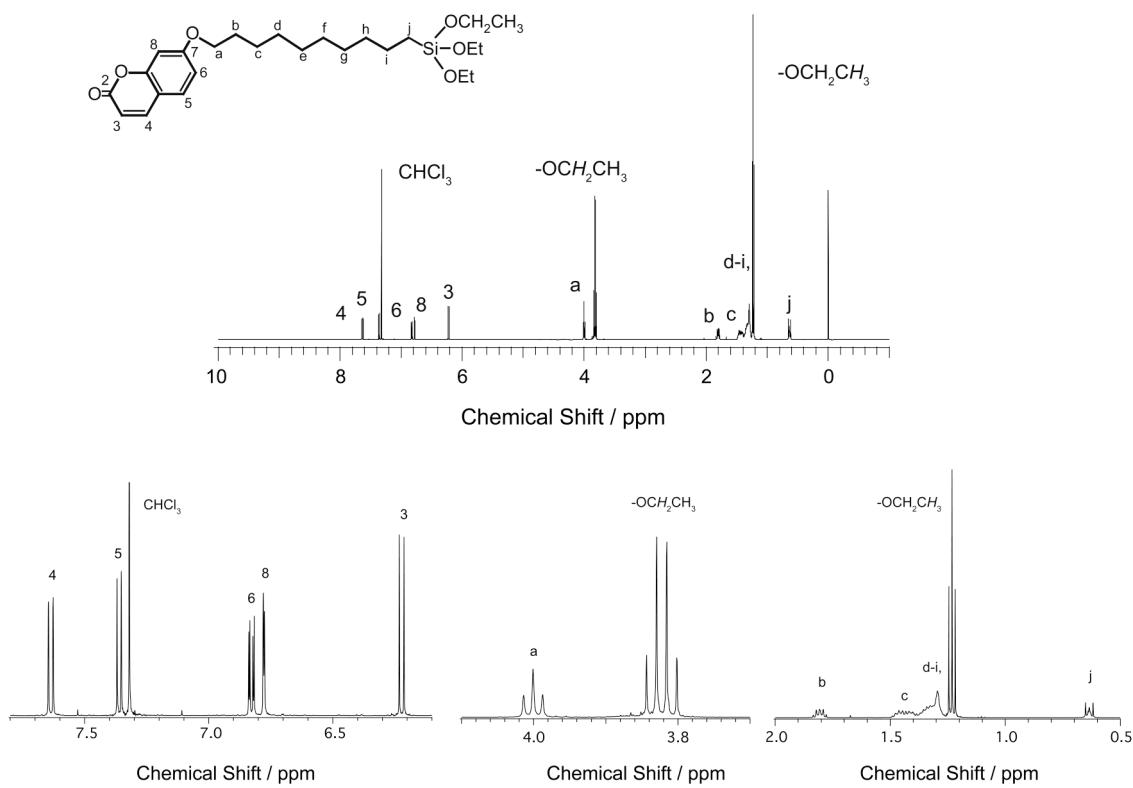


Fig. S2 Liquid-state ^1H NMR spectrum of **1** (500 MHz, in CDCl₃).

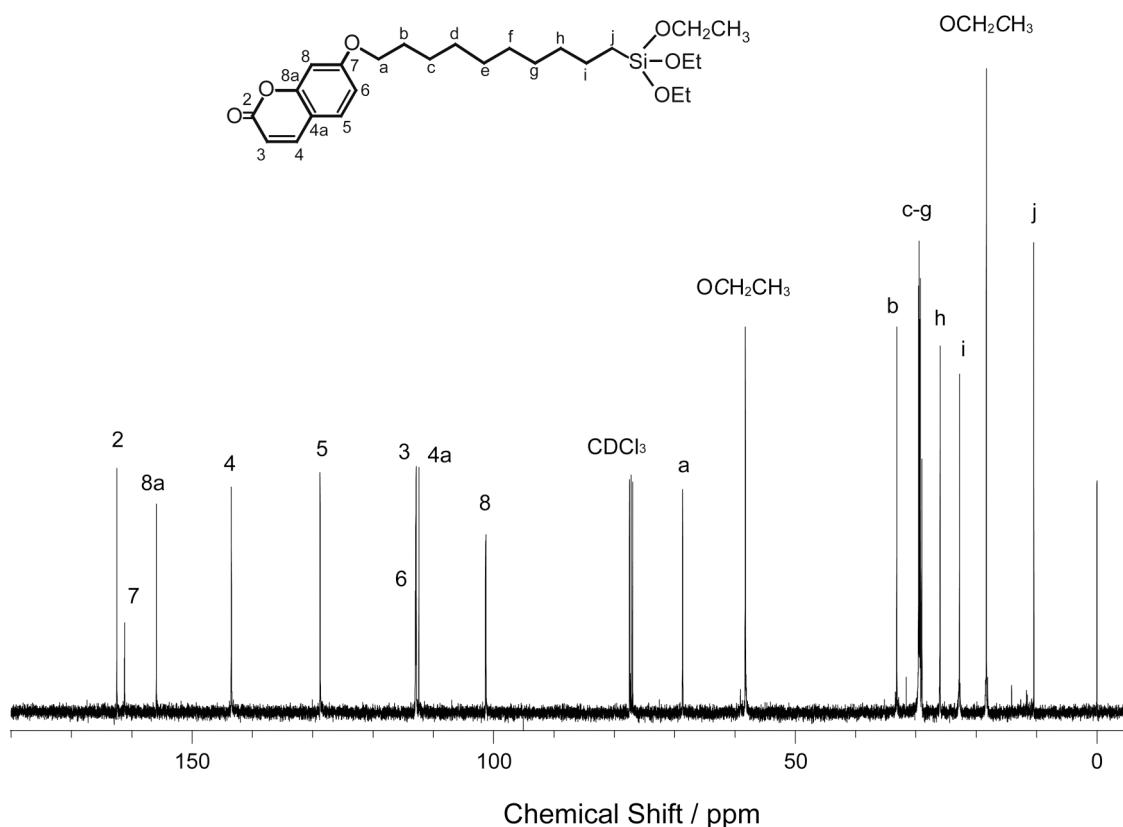


Fig. S3 Liquid-state ^{13}C NMR spectrum of **1** (125.65 MHz, in CDCl_3).

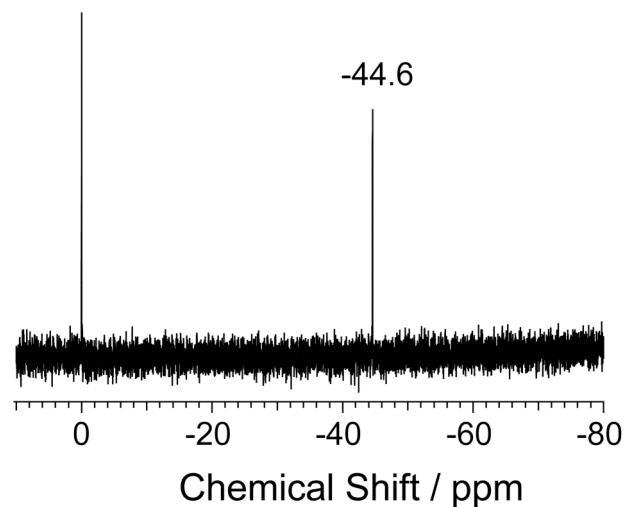


Fig. S4 Liquid-state ^{29}Si NMR spectrum of **1** (99.25 MHz, in CDCl_3).

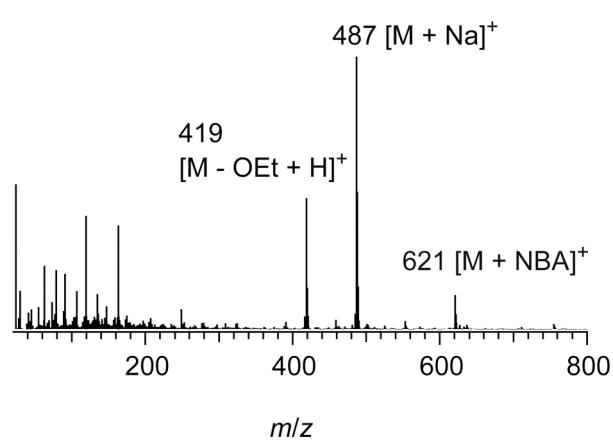


Fig. S5 FAB-MS spectrum of **1**.

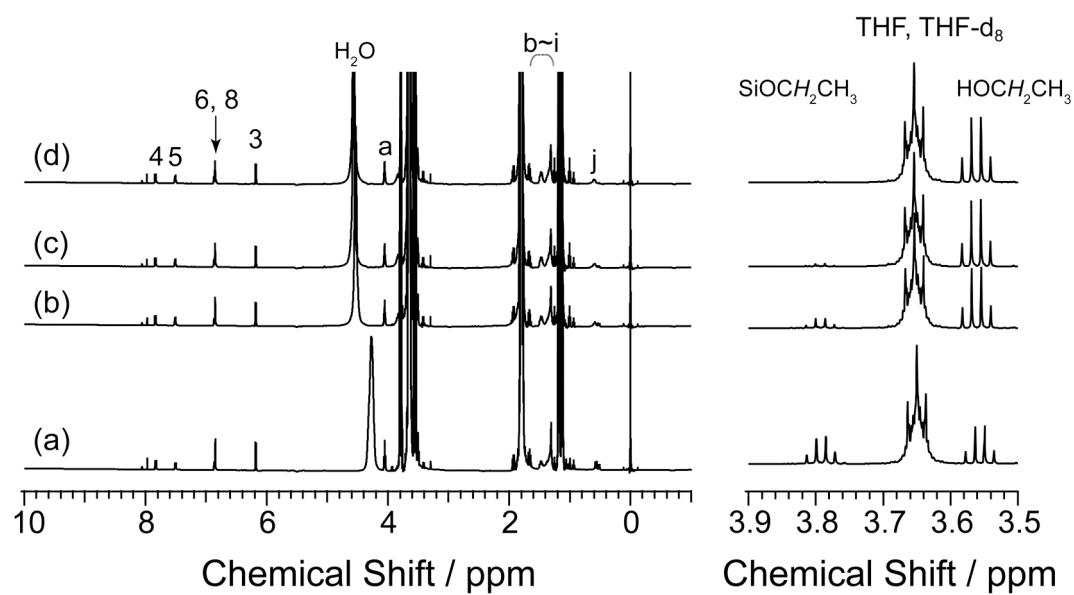


Fig. S6 Liquid-state ¹H NMR spectra of the precursor solution after the reactions for (a) 15 min, (b) 30 min, (c) 45 min, and (d) 60 min.

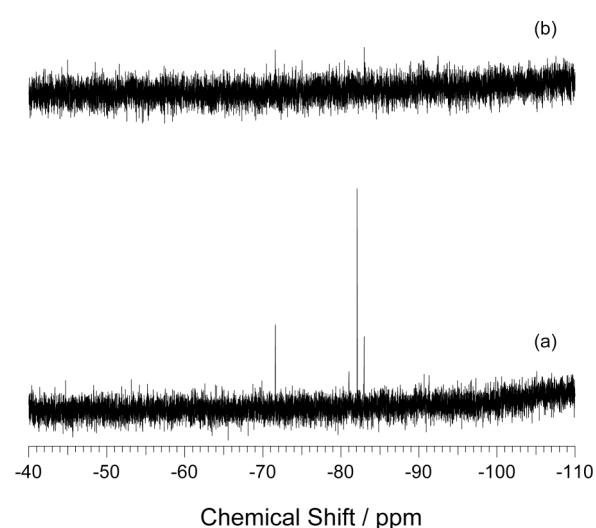


Fig. S7 Liquid-state ^{29}Si NMR spectra of the precursor solution after the reaction for (a) 20 min and (b) 50 min.

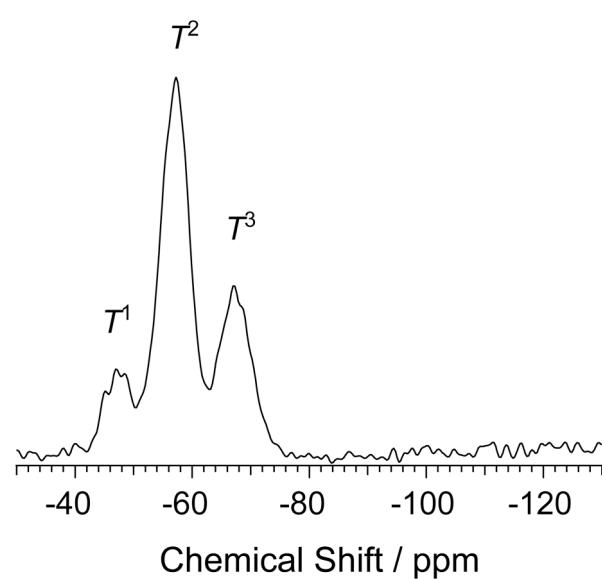


Fig. S8 ^{29}Si MAS NMR spectrum of the hybrid obtained by the self-condensation of **1**.

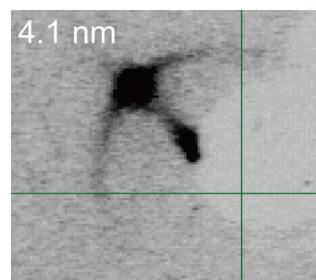


Fig. S9 2D XRD pattern of **F1**.

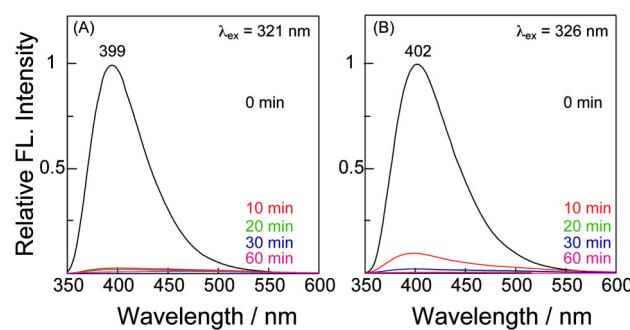


Fig. S10 Fluorescence emission spectra of (A) **F1** and (B) **D1** before and during photoirradiation ($>310 \text{ nm}$).

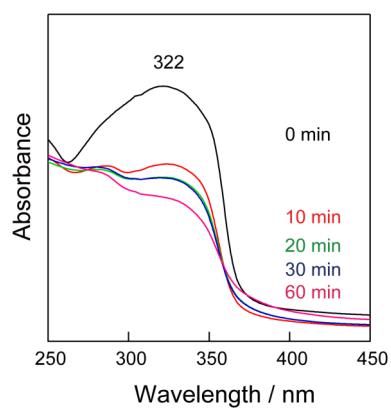


Fig. S11 UV-vis absorption spectra of neat **1** before and during photoirradiation ($\lambda > 310$ nm).