

Supplementary material

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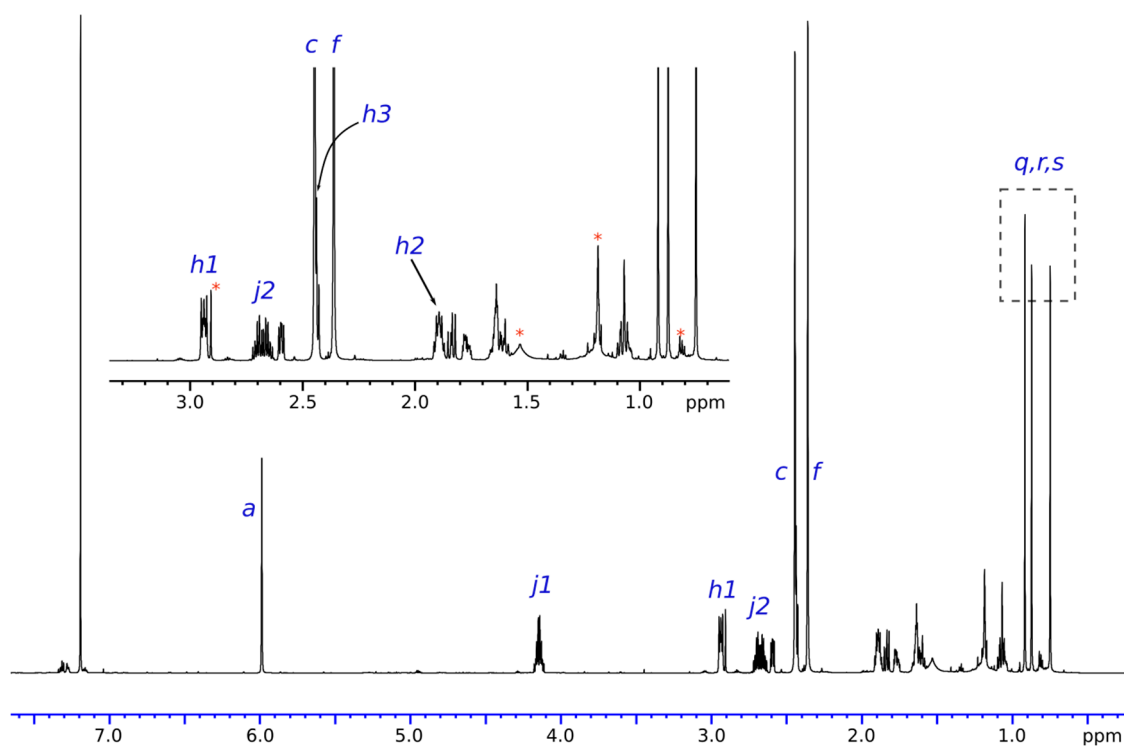


Figure S1. ¹H NMR spectrum (700 MHz) of terpene conjugate **6** in CDCl₃. Temperature $t = 25^{\circ}\text{C}$, reference signal of chloroform is set to $\delta = 7.24$ ppm. Signal labeling is as in Figure. S2 (or Figure 3 in the article text). Impurities are marked by asterisks.

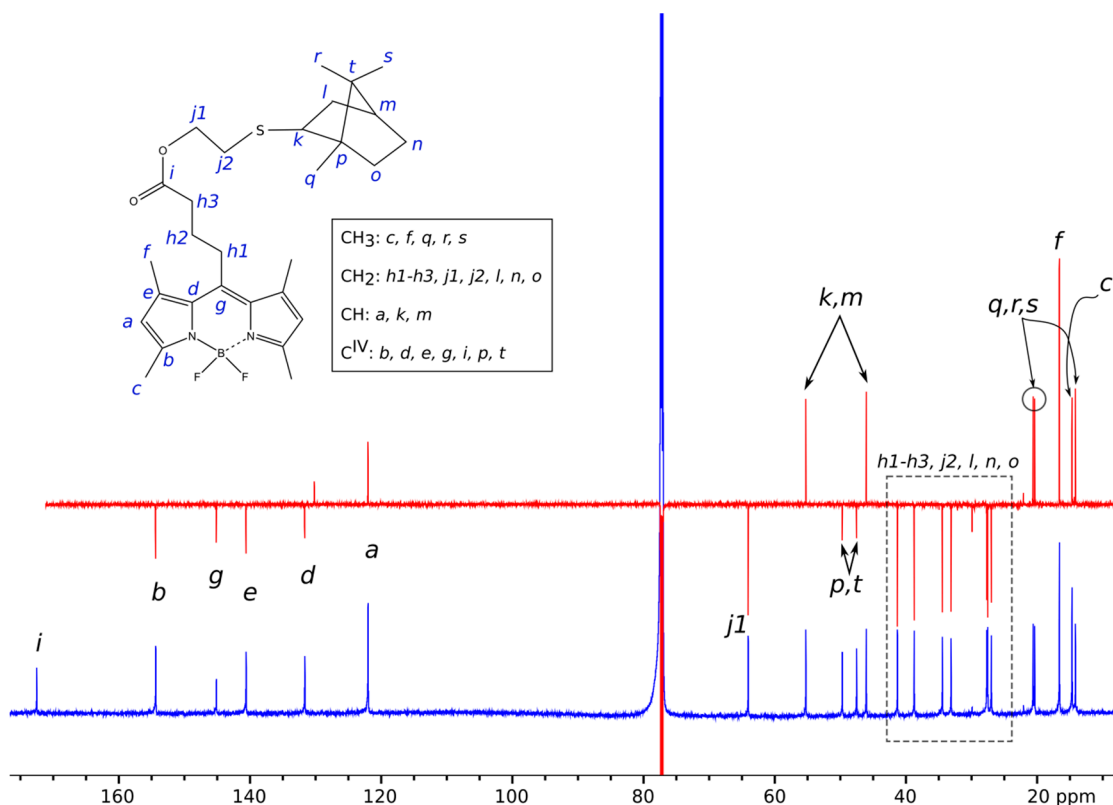


Figure S2. ^{13}C - ^1H NMR spectra (176 MHz) of terpene conjugate **6** in CDCl_3 . Temperature $t = 25^\circ\text{C}$, reference signal of chloroform is set to $\delta = 77.23$ ppm. Signal labeling is as in Figure 3 in the article text. The upper spectrum is the APT: positive lines belong to CH_3 and CH groups; negative, to CH_2 and quaternary carbons.

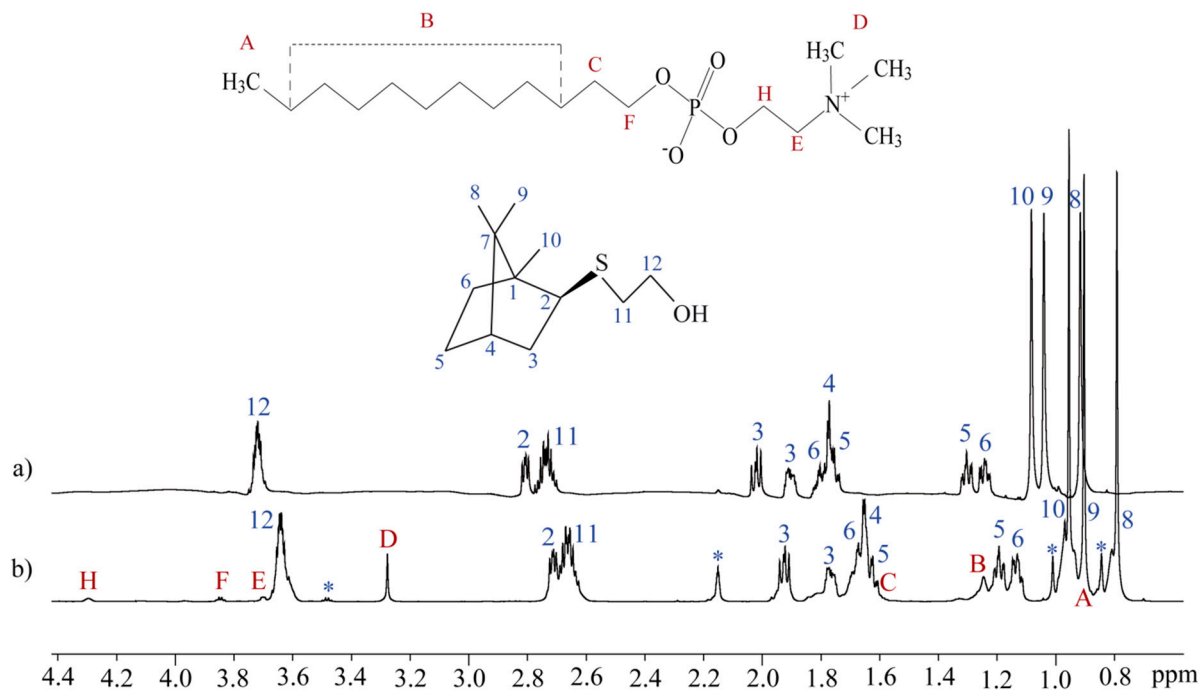


Figure S3. 500-MHz proton NMR spectra of bornane sulfide **5** in (a) $(\text{CD}_3)_2\text{CO}$ and (b) $(\text{CD}_3)_2\text{CO}+\text{D}_2\text{O}+\text{DPC}$ solutions. The impurity signals are marked by asterisks.

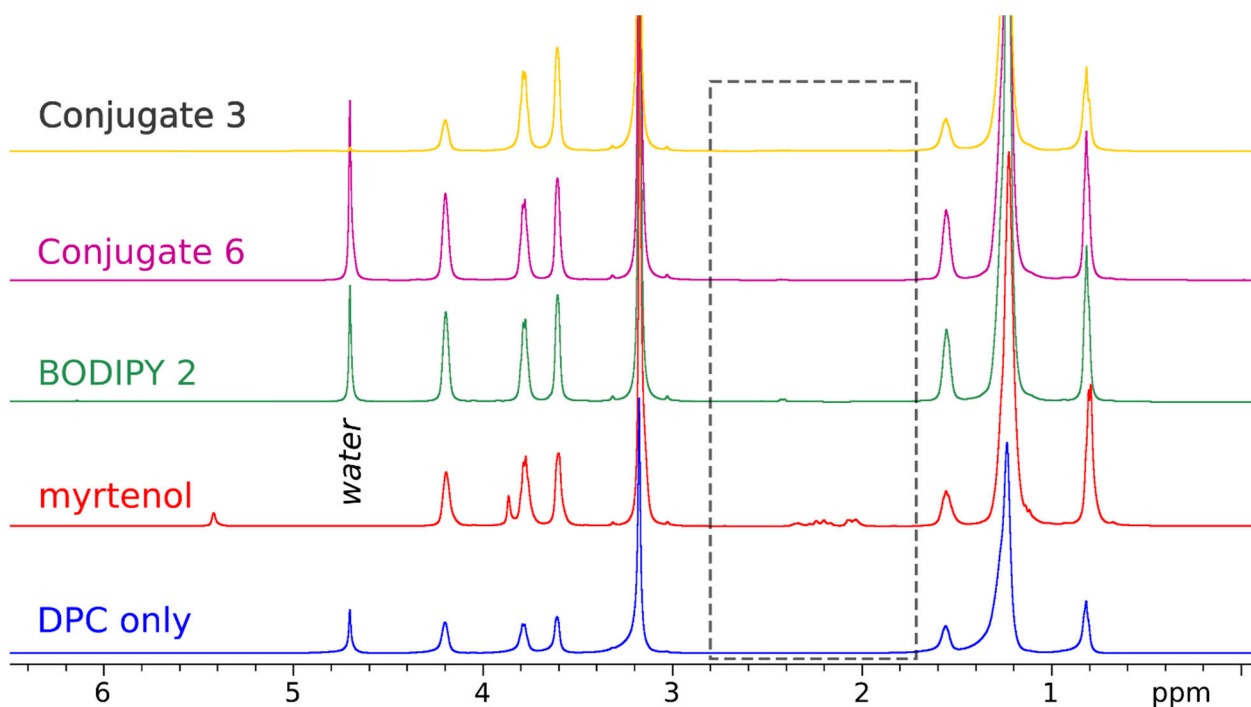


Figure S4. ^1H NMR spectra (500.1 MHz, D_2O) of the studied compounds in the presence of DPC micelles. From top: **3**, **6**, **2**, myrtenol, DPC. The zoomed region containing characteristic signals is marked with a rectangle and shown in Fig. 13.

Table S1. Torsion angles for two independent molecules of compound **6** in a crystal according to XRD data.

Angle	Molecule A, °	Molecule B, °
C2C3C17C18	-83.5(4)	-92.4(4)
C3C17C18C19	-179.6(3)	-178.5(3)
C17C18C19C20	69.4(4)	-66.8(4)
C18C19C20O21	-115.7(4)	117.7(4)
C19C20O21C22	177.7(3)	-173.7(3)
C20O21C22C23	176.0(4)	-173.4(3)
O21C22C23S24	-179.8(3)	178.0(3)
C22C23S24C25	-134.1(4)	-175.9(3)
C23S24C25C30	160.3(3)	155.3(3)

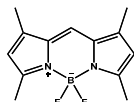
Table S2. Quantitative kinetic characteristics of the processes of photodegradation of dyes **2**, **6** and **7** in organic solvents.

Compound	Solvent							
	Cyclohexane		1-Octanol		Toluene		DMSO	
	$t_{1/2}$, h	$k_{obs} \cdot 10^6$, s^{-1}	$t_{1/2}$, h	$k_{obs} \cdot 10^6$, s^{-1}	$t_{1/2}$, h	$k_{obs} \cdot 10^6$, s^{-1}	$t_{1/2}$, h	$k_{obs} \cdot 10^6$, s^{-1}
	88.6	2.9 ± 0.3	82.3	3.1 ± 0.3	40.5	5.5 ± 0.3	8.3	27.7 ± 0.3



6

85.1 3.1±0.3 81.9 3.3±0.2 40.4 5.6±0.2 8.1 28.1±0.3



7

46.0 4.8±0.3 30.4 6.9±0.5 16.7 8.8±0.6 4.7 41.2±0.5

Table S3. ^1H NMR chemical shifts (δ , ppm) of bornane sulfide **5** in $(\text{CD}_3)_2\text{CO}$ and $(\text{CD}_3)_2\text{CO}+\text{D}_2\text{O}+\text{DPC}$ solutions.

Solvent	<u>CH</u> -2	<u>CH</u> ₂ -3	<u>CH</u> -4	<u>CH</u> ₂ -5	<u>CH</u> ₂ -6	<u>CH</u> ₃ -8	<u>CH</u> ₃ -9	<u>CH</u> ₃ -10	<u>CH</u> ₂ -11	<u>CH</u> ₂ -12
$(\text{CD}_3)_2\text{CO}$	2.81	1.90, 2.02	1.77	1.30, 1.75	1.24, 1.81	0.92	1.04	1.08	2.73	3.72
$(\text{CD}_3)_2\text{CO}$ + D_2O + DPC	2.71	1.77, 1.92	1.65	1.19, 1.62	1.13, 1.68	0.79	0.90	0.95	2.66	3.64

Table S4. ^{13}C NMR chemical shifts (δ , ppm) of bornane sulfide **5** in $(\text{CD}_3)_2\text{CO}$ and $(\text{CD}_3)_2\text{CO}+\text{D}_2\text{O}+\text{DPC}$ solutions.

Solvent	<u>C</u> -1	<u>CH</u> -2	<u>CH</u> ₂ -3	<u>CH</u> -4	<u>CH</u> ₂ -5	<u>CH</u> ₂ -6	<u>C</u> -7	<u>CH</u> ₃ -8	<u>CH</u> ₃ -9	<u>CH</u> ₃ -10	<u>CH</u> ₂ -11	<u>CH</u> ₂ -12
$(\text{CD}_3)_2\text{CO}$	47.1	54.5	41.2	45.9	38.3	27.2	49.1	19.9	20.2	13.7	37.1	61.6
$(\text{CD}_3)_2\text{CO}+$ D_2O + DPC	46.9, 47.0'	54.4, 54.5'	40.8, 41.1'	45.7, 45.8'	38.0, 38.2'	26.9, 27.1'	49.0, 49.1'	19.7, 19.9'	20.0, 20.2'	13.5, 13.7'	36.2, 36.7'	61.1, 61.3'