

Supplementary Material

Bis(1-pyrenylmethyl)-2-benzyl-2-methyl-malonate as a Cu^{2+} ion-selective Fluoroionophore

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1. Fluorescence Response of bispyrenyl malonate 1.

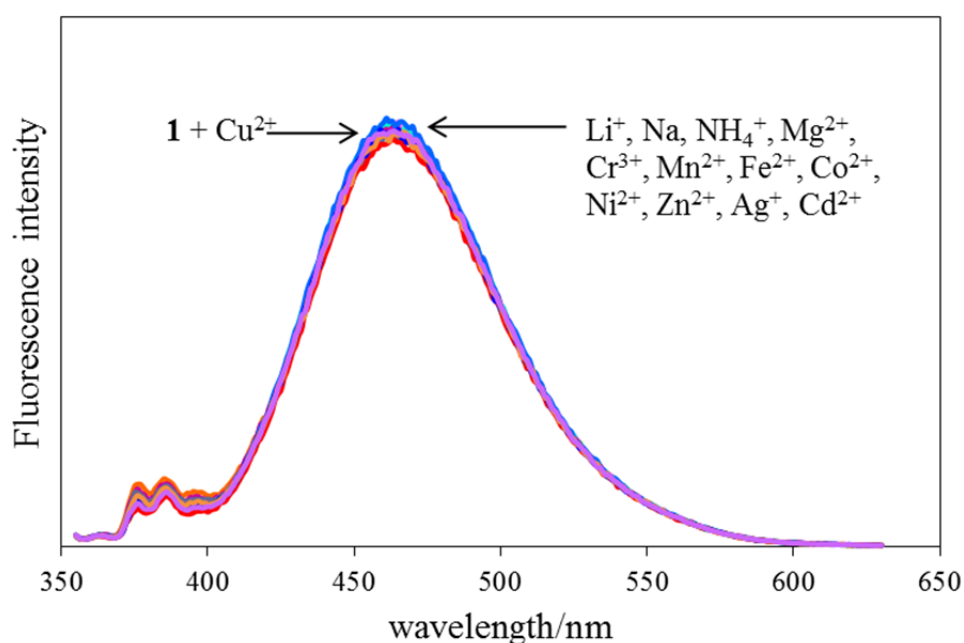


Fig. S1 Fluorescence spectra of bispyrenyl malonate **1** (10 μM) mixed with 1 equiv. of the Cu^{2+} ions were changed in the presence of 1 equiv. of Li^+ , Na^+ , NH_4^+ , Mg^{2+} , Cr^{3+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Zn^{2+} , Ag^+ , and Cd^{2+} in acetonitrile/chloroform (9:1, v/v) (excitation wavelength: $\lambda_{\text{ex}} = 344 \text{ nm}$).

2. Fluorescence Response of bispyrenyl malonate **2**.

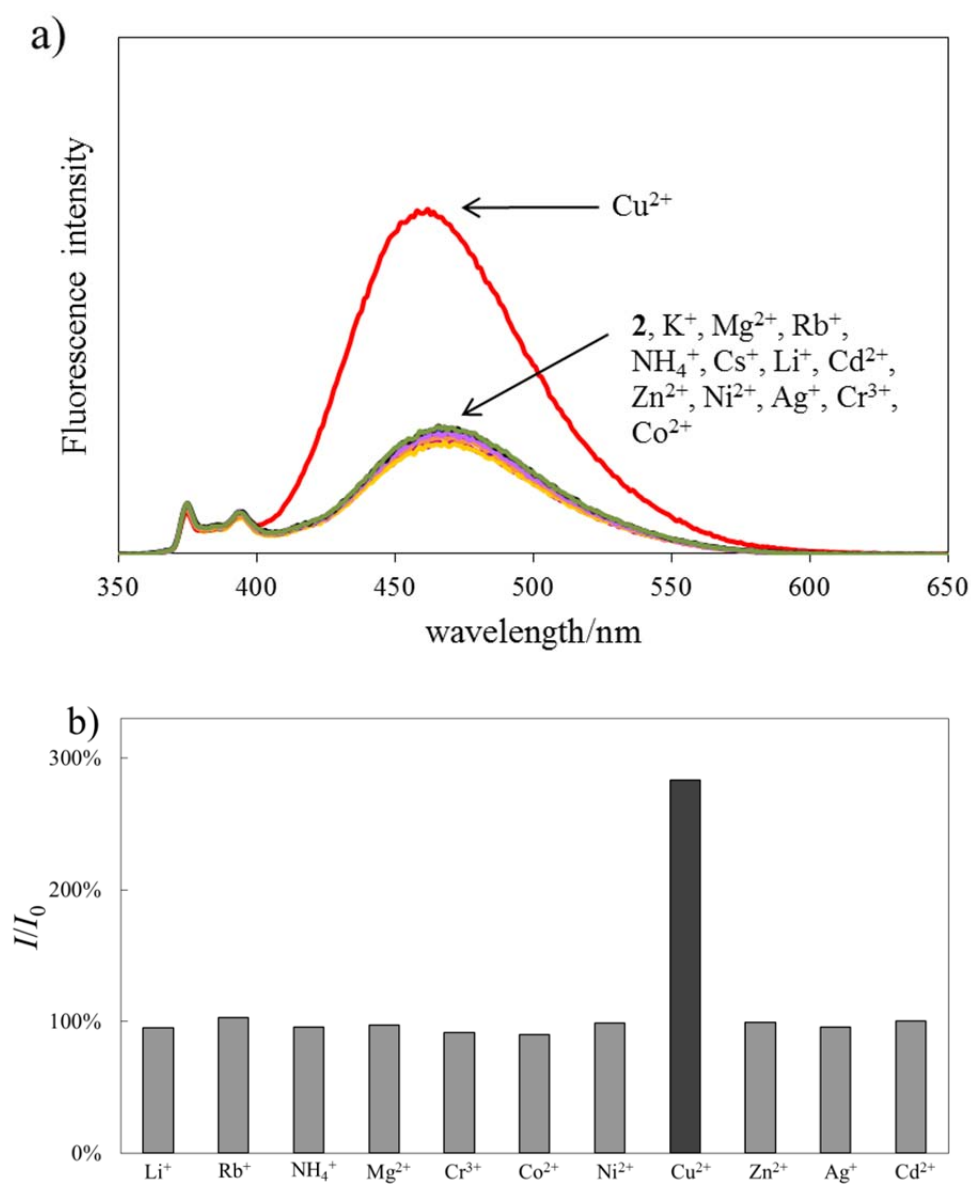
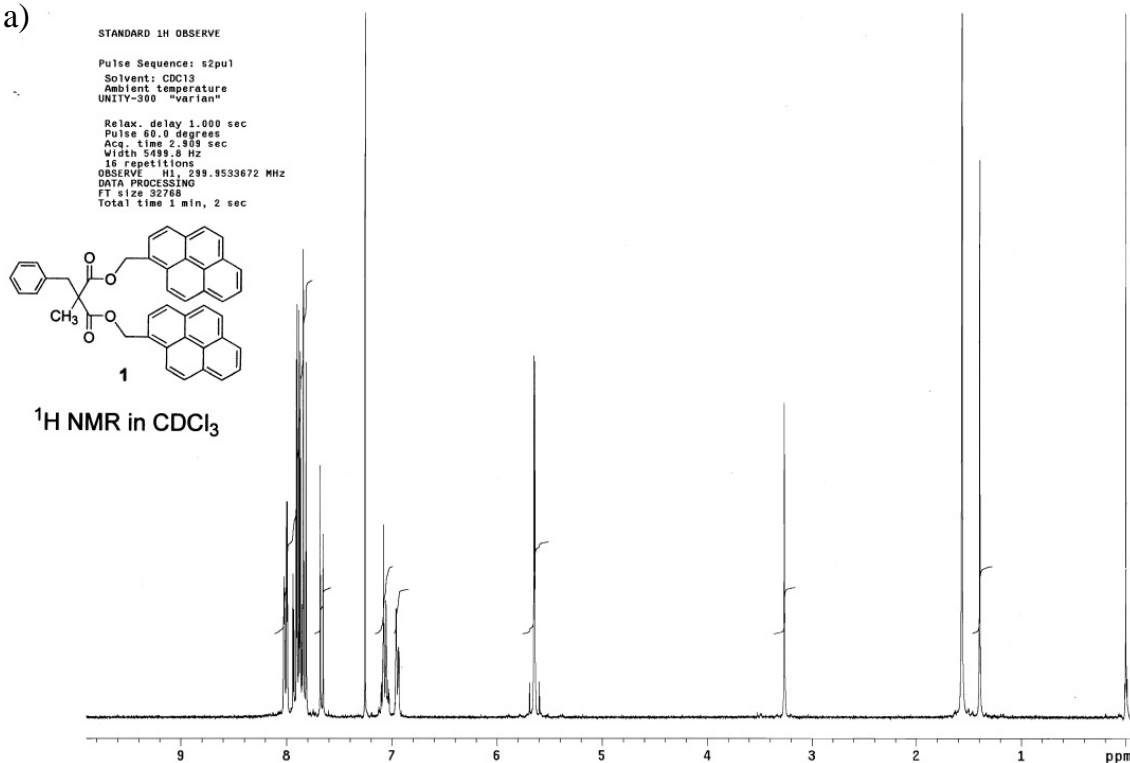


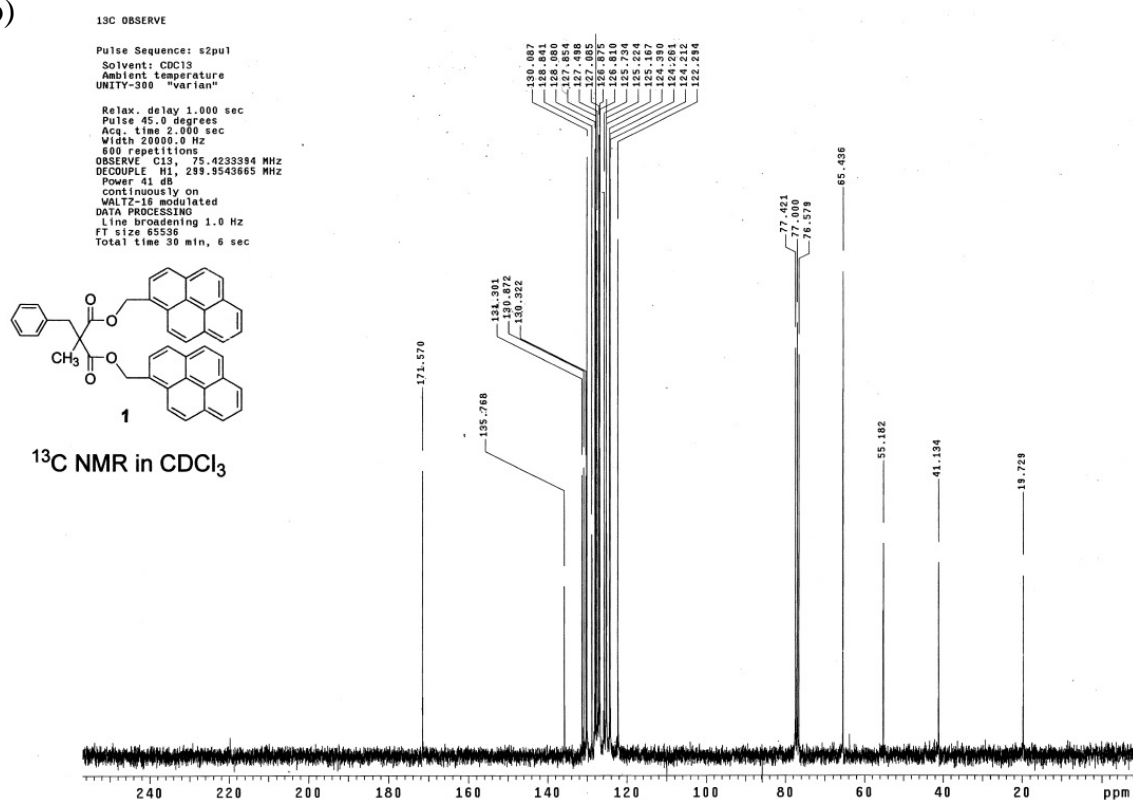
Fig. S2 (a) Fluorescence spectra and (b) ratio of the fluorescence intensities monitored at 464 nm of bispyrenyl malonate **2** (10 μM) in the presence of 1 equiv. of Li^+ , Rb^+ , NH_4^+ , Mg^{2+} , Cr^{3+} , Co^{2+} , Ni^{2+} , Cu^{2+} , Zn^{2+} , Ag^+ , and Cd^{2+} in acetonitrile/chloroform (9:1, v/v) (excitation wavelength: $\lambda_{\text{ex}} = 344 \text{ nm}$).

3. Spectral data of bispyrenyl malonate 1.

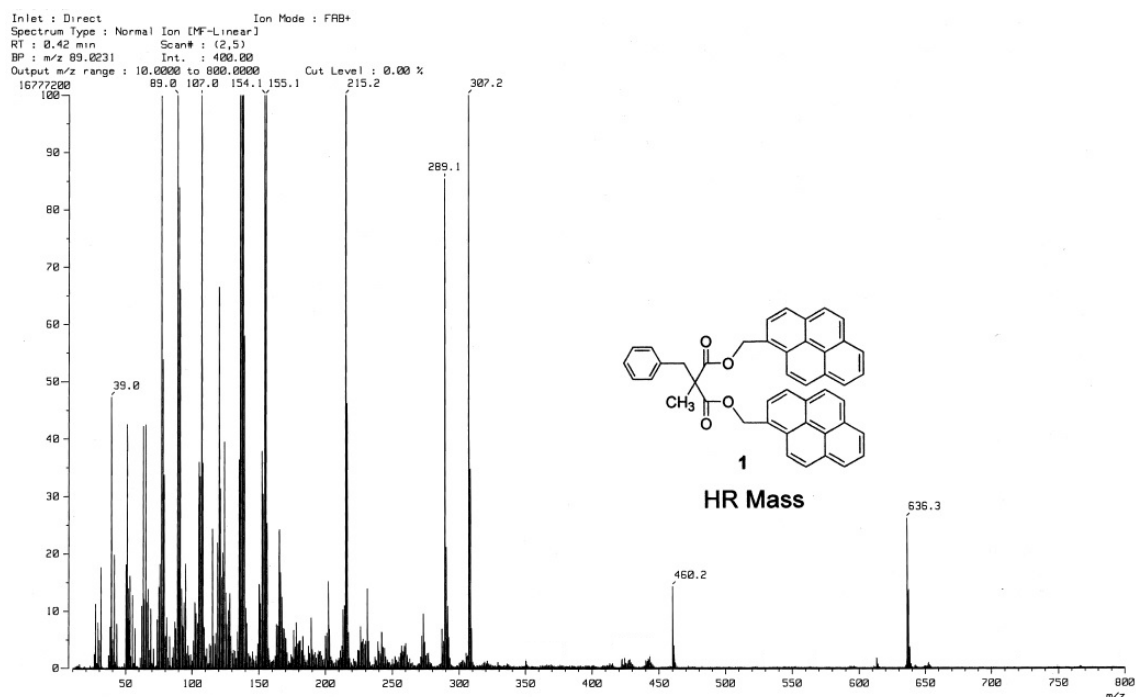
a)



b)



c)



d)

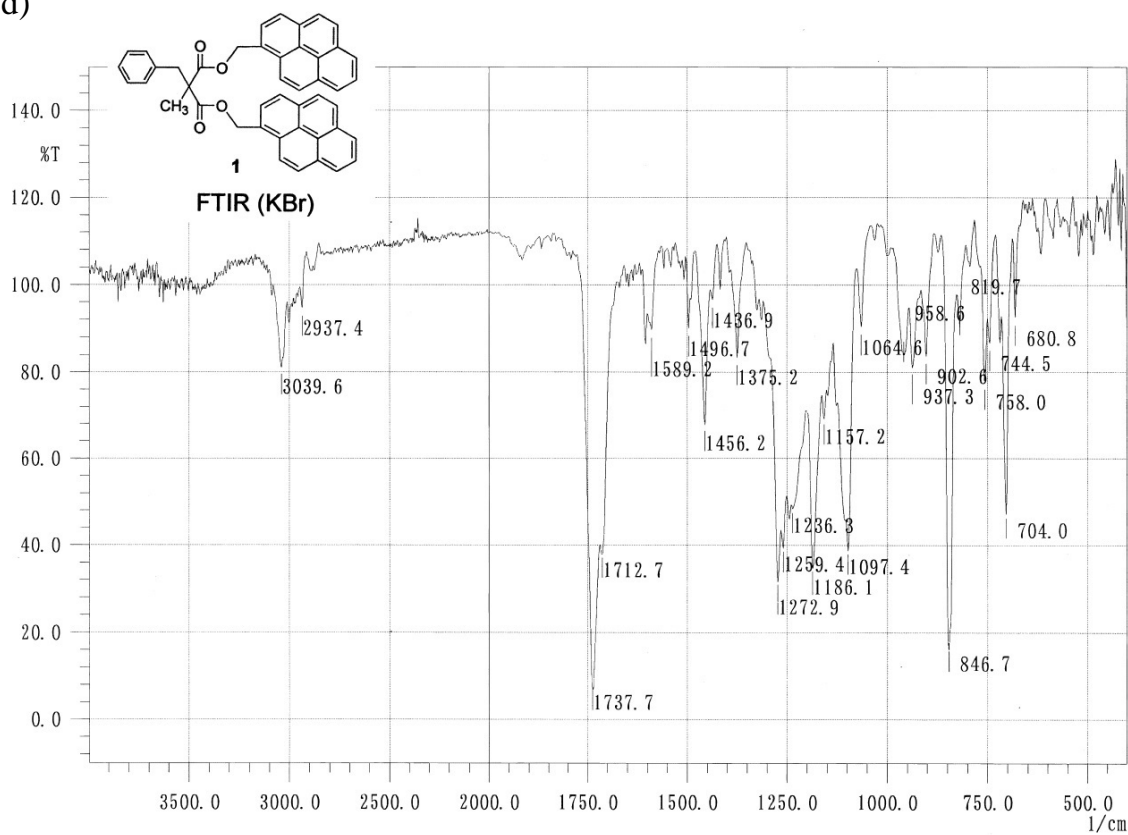
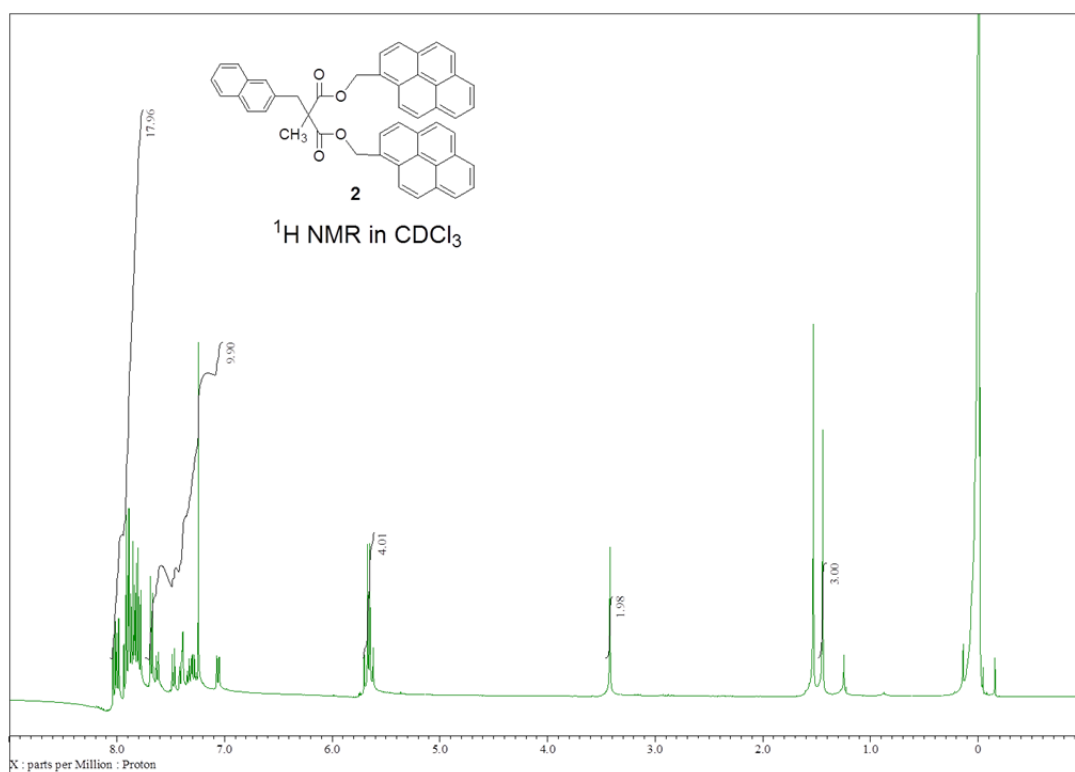


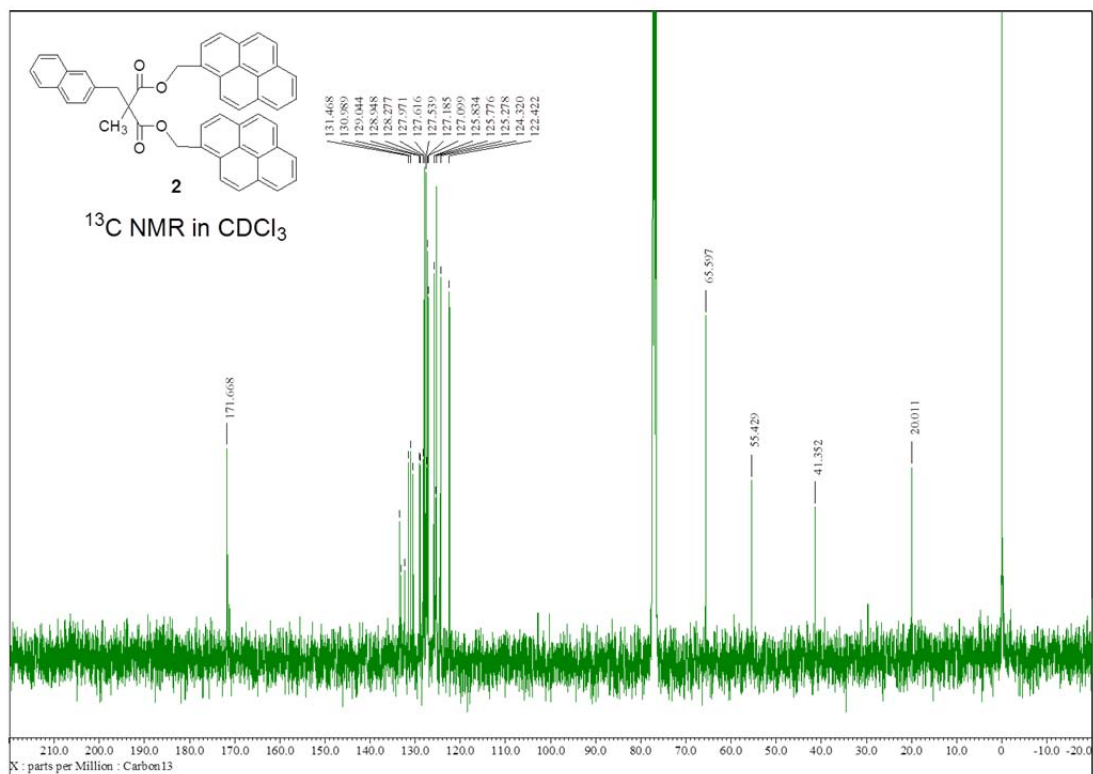
Fig. S3 (a) ^1H NMR and (b) ^{13}C NMR spectra, (c) HRMS and (d) FT IR of bispyrenyl malonate **1**.

4. Spectral data of bispyrenyl malonate **2**.

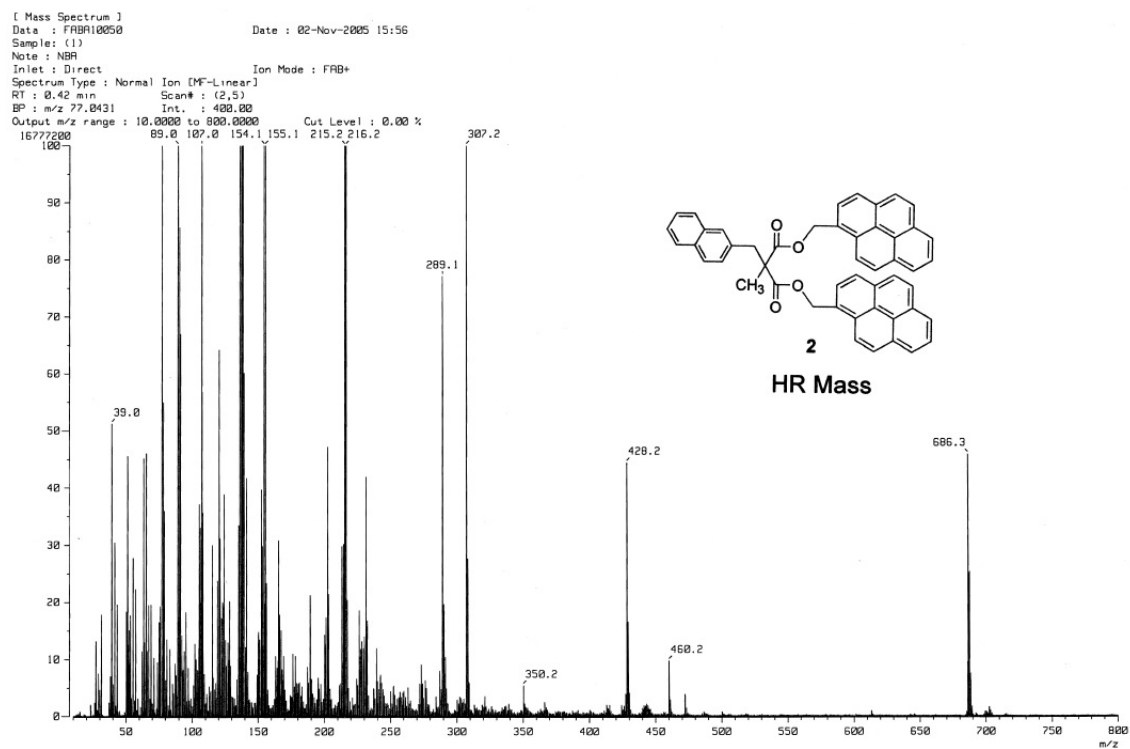
a)



b)



c)



d)

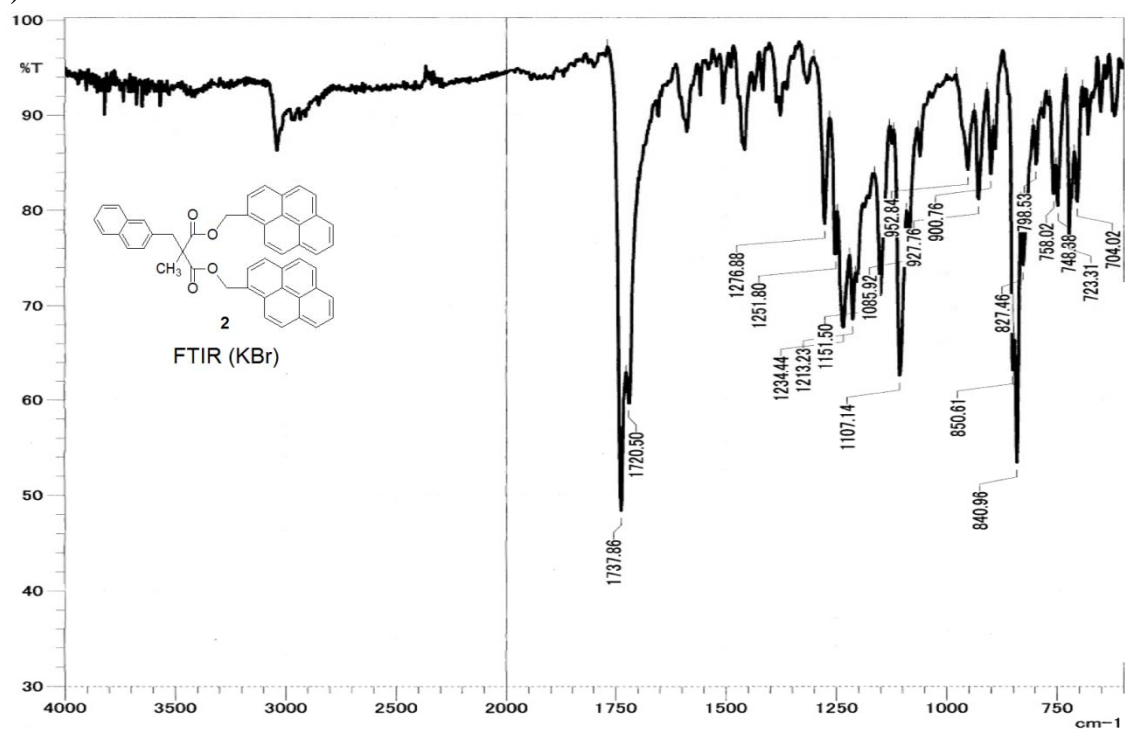


Fig. S4 (a) ¹H NMR and (b) ¹³C NMR spectra, (c) HRMS and (d) FT IR of bispyrenyl malonate **2**.