

Supporting information

pH Sensitive Fluorescent Phototrigger based on benzo[b]acridine-12-yl) methanol (BAM): Synthesis, Photophysical, Photochemical and Biological Applications

Mohammed Ikbal,^[a] Biswajit Saha,^[b] Shrabani Barman,^[a] Sanghamitra Atta^[a] Debranjana Banerjee,^[a]
Sudip Kumar Ghosh,^[b] and N. D. Pradeep Singh*^[a]

^aDepartment of Chemistry, Indian Institute of Technology Kharagpur, Kharagpur–721302, India.

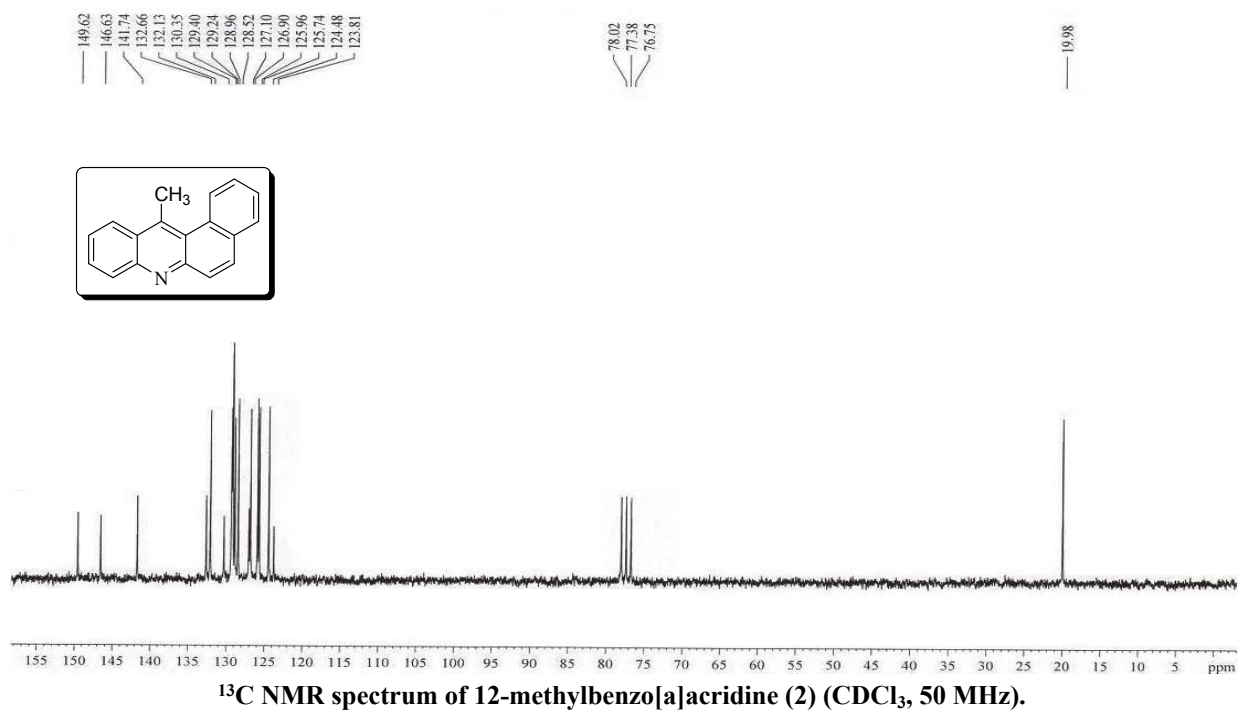
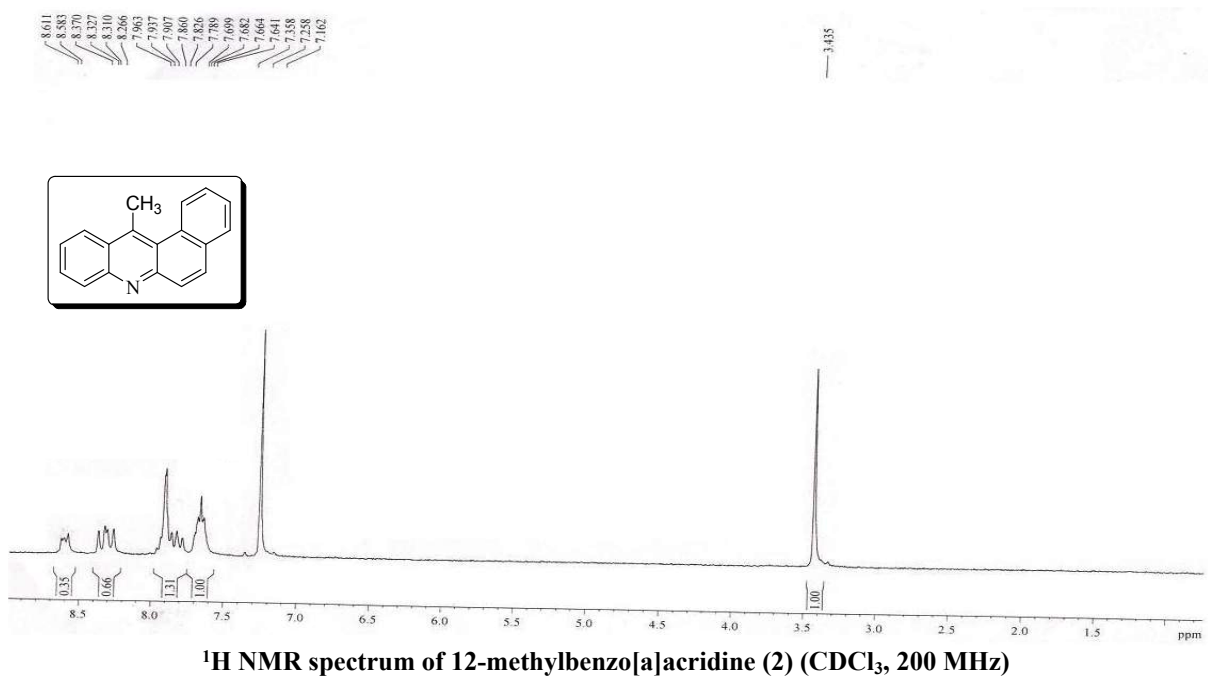
^bDepartment of Biotechnology, Indian Institute of Technology Kharagpur, Kharagpur–721302, India

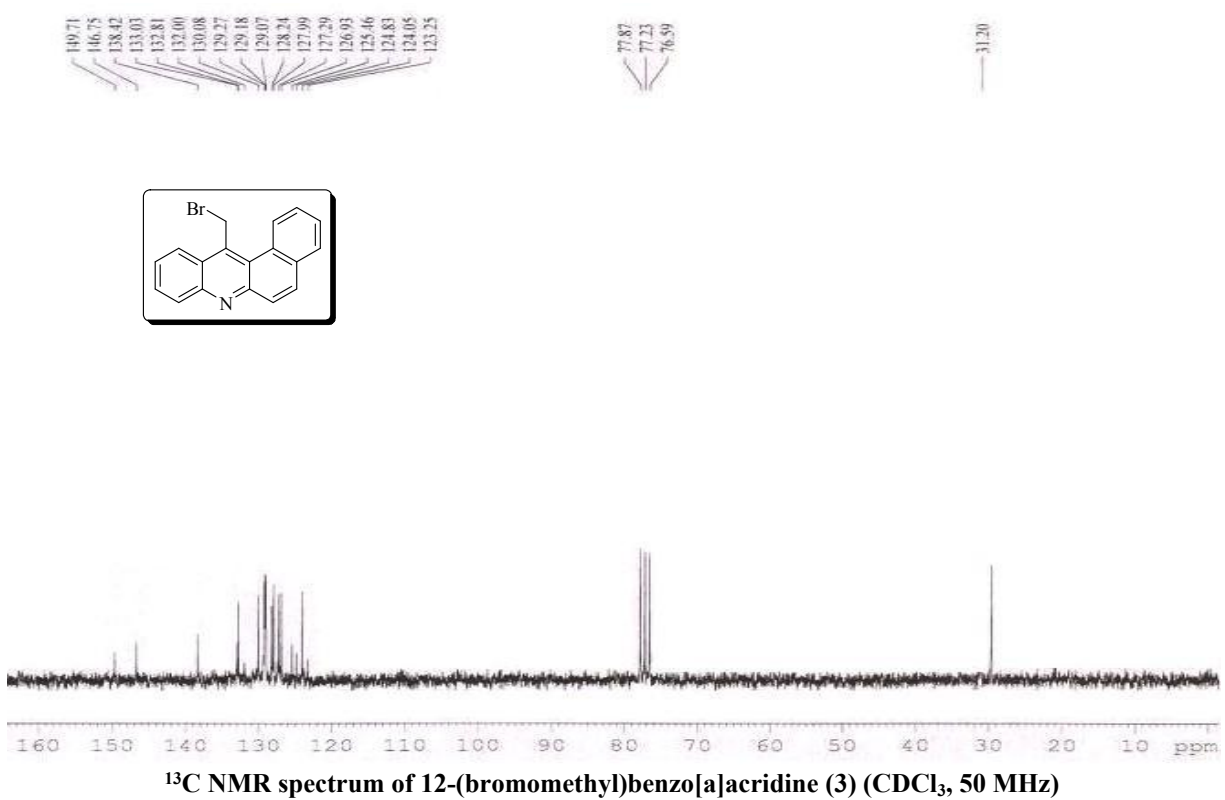
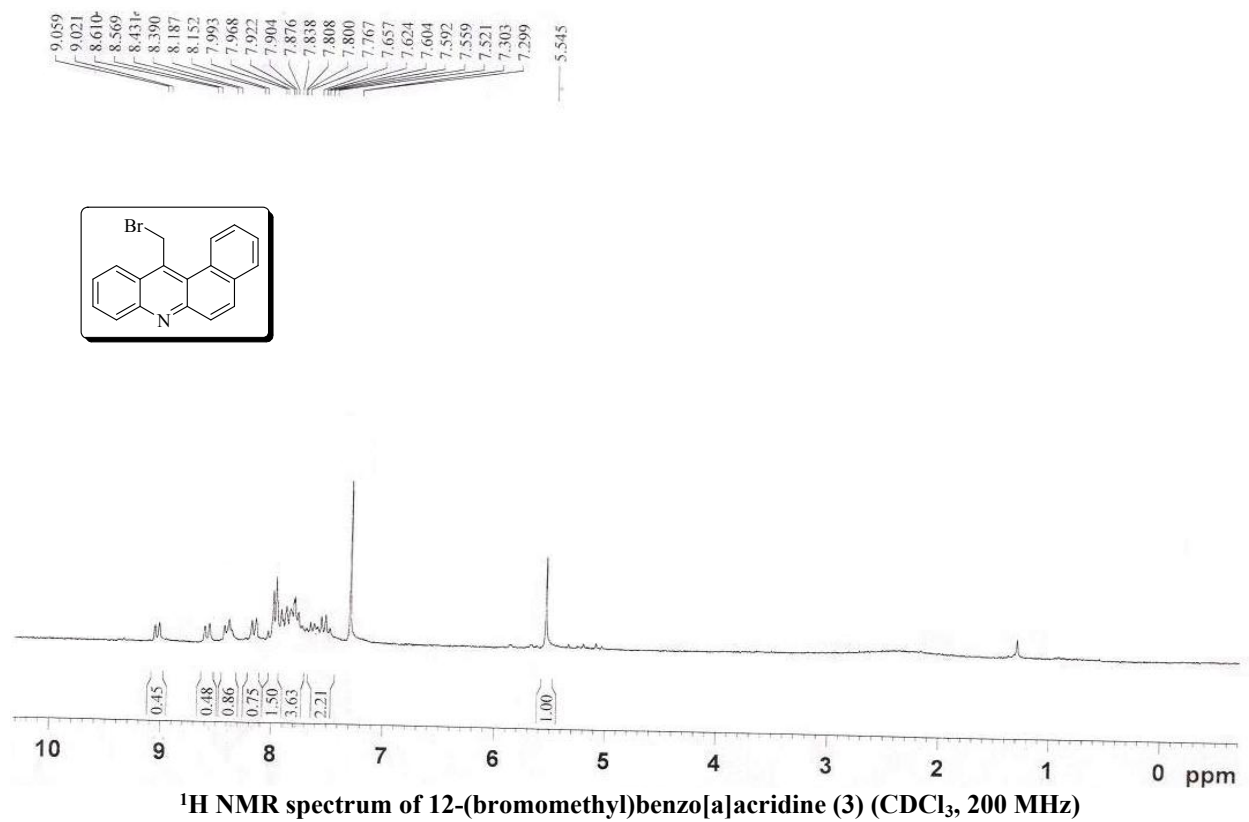
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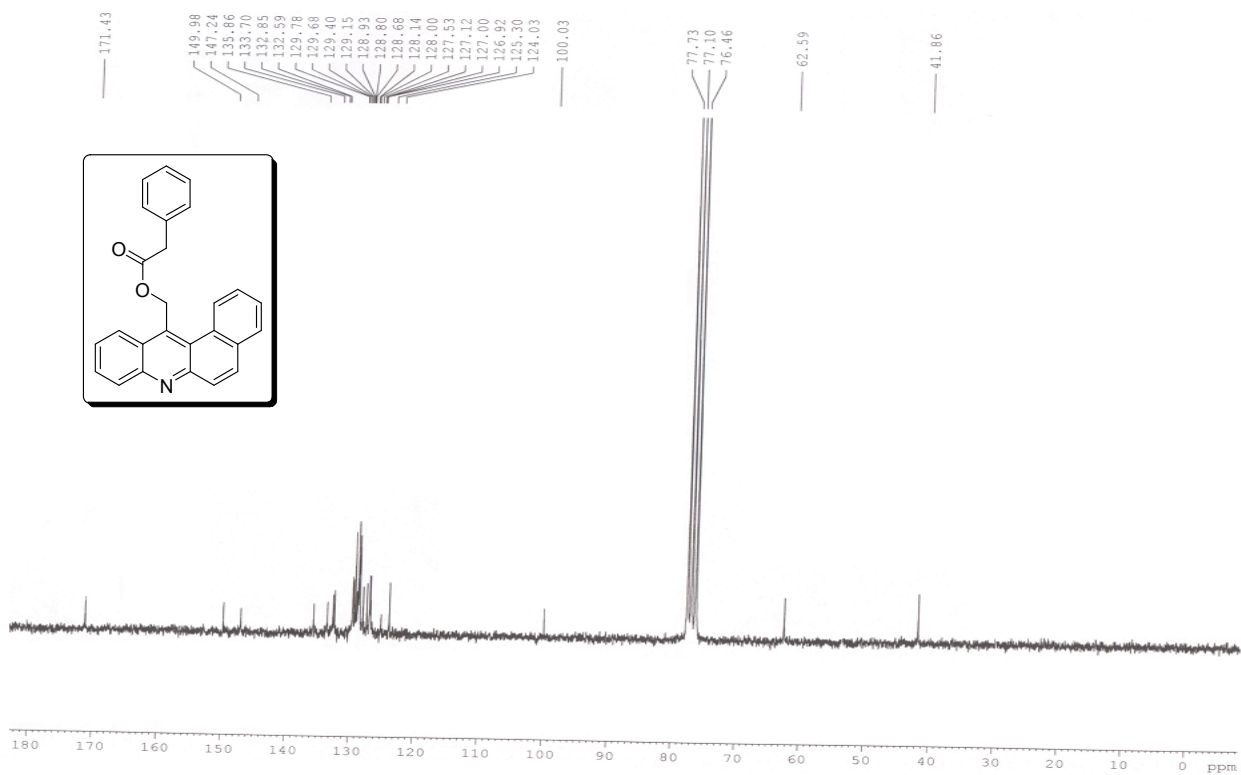
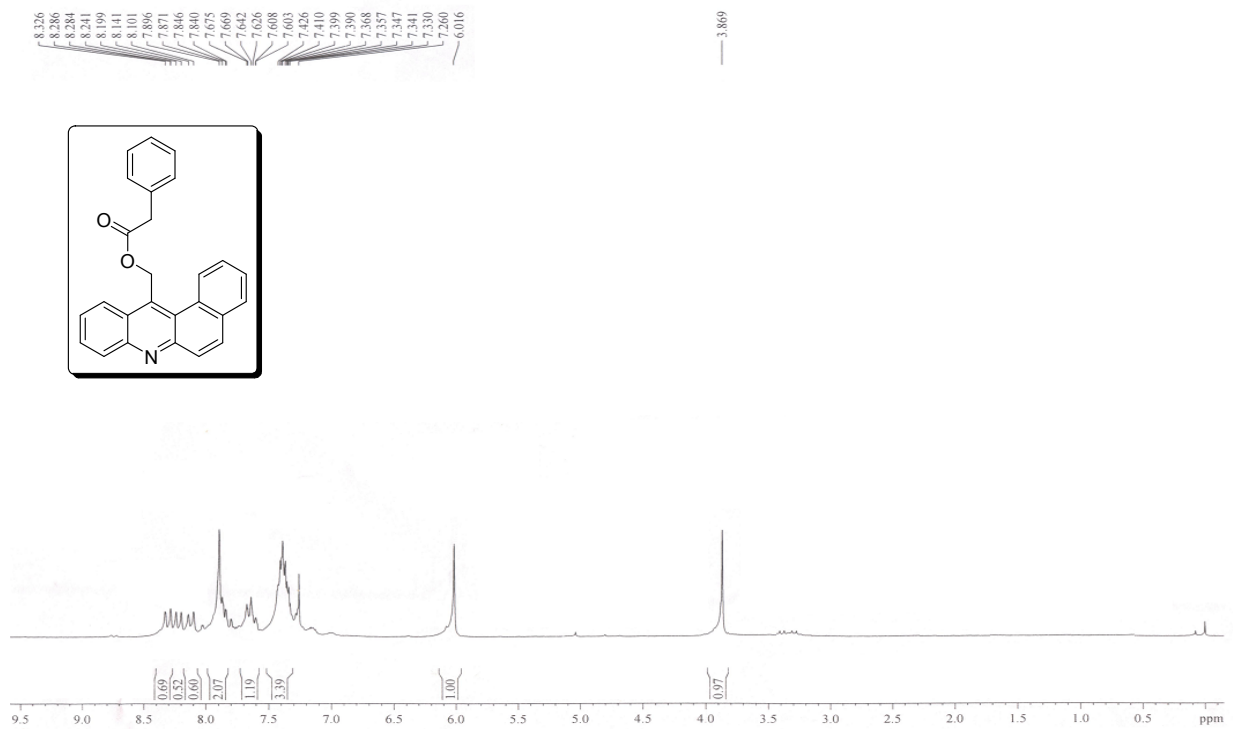
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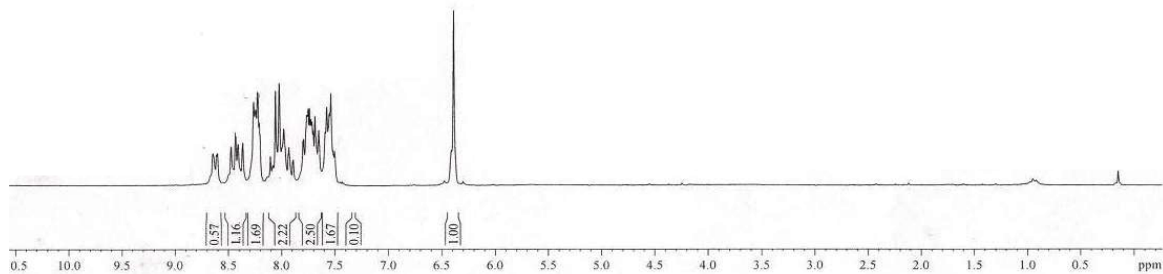
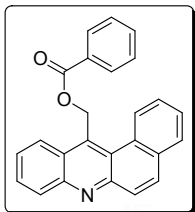
Supplementary Data

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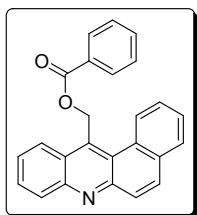
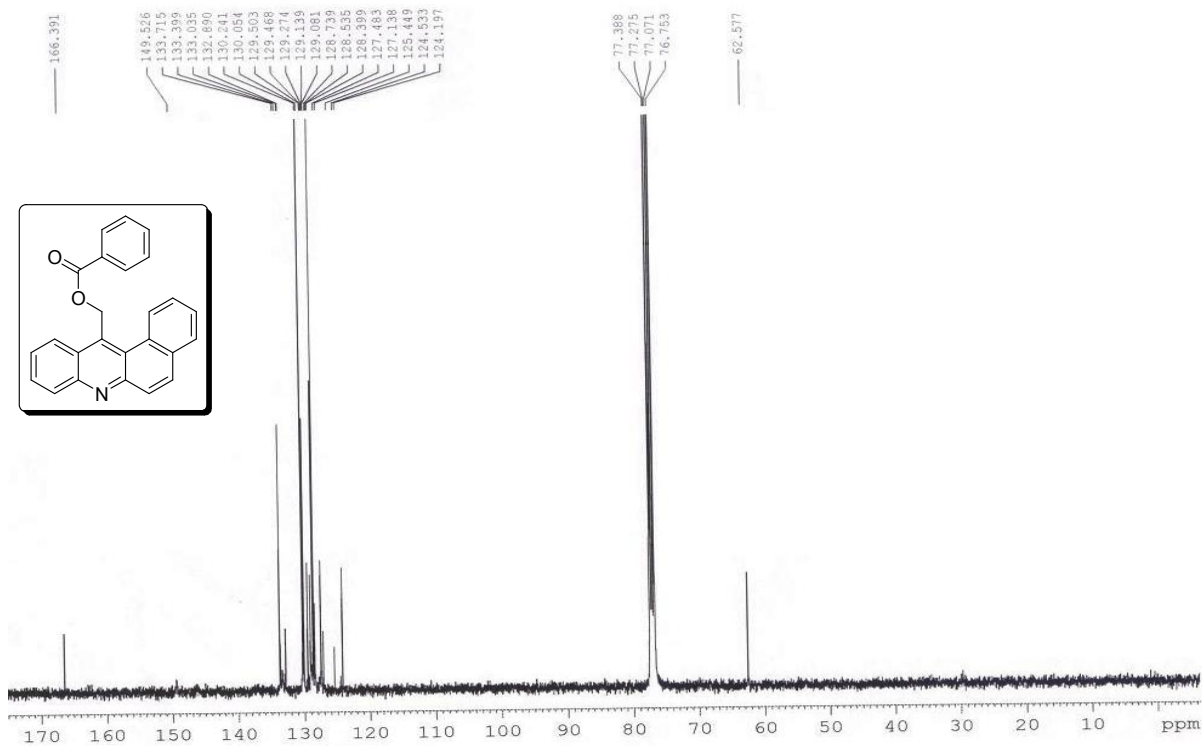




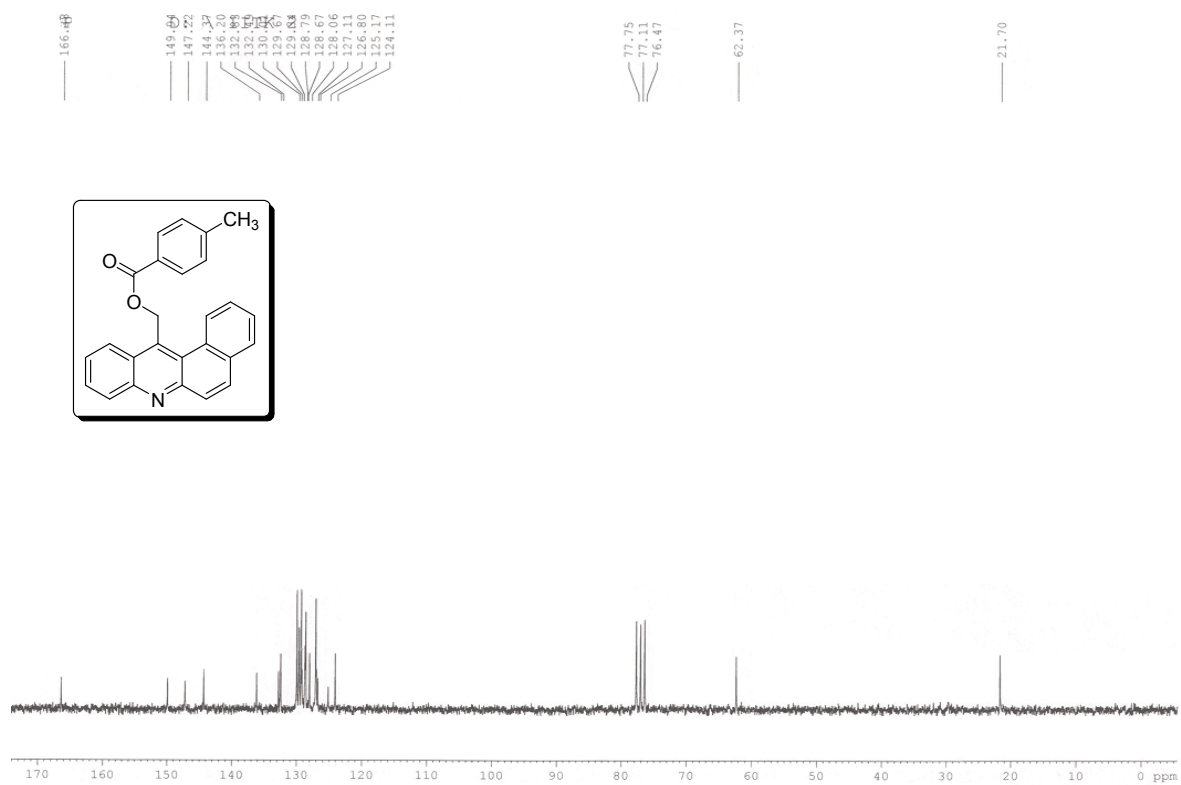
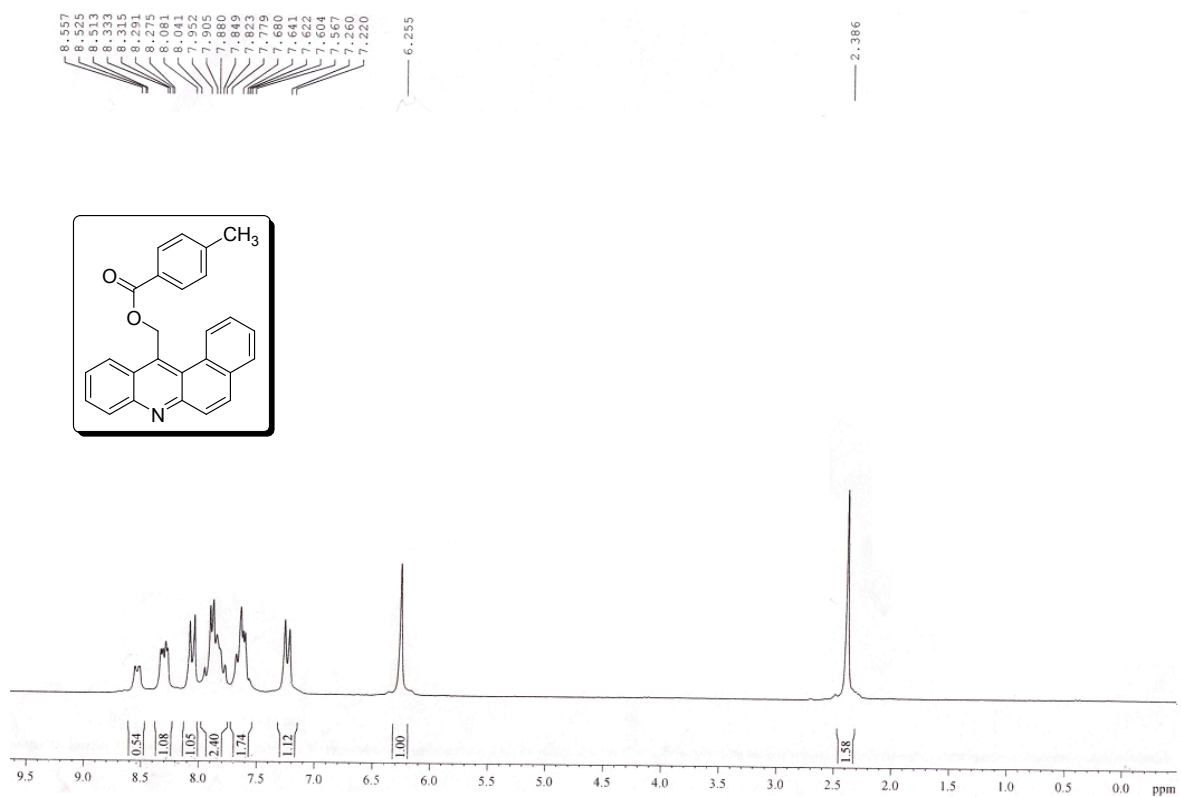


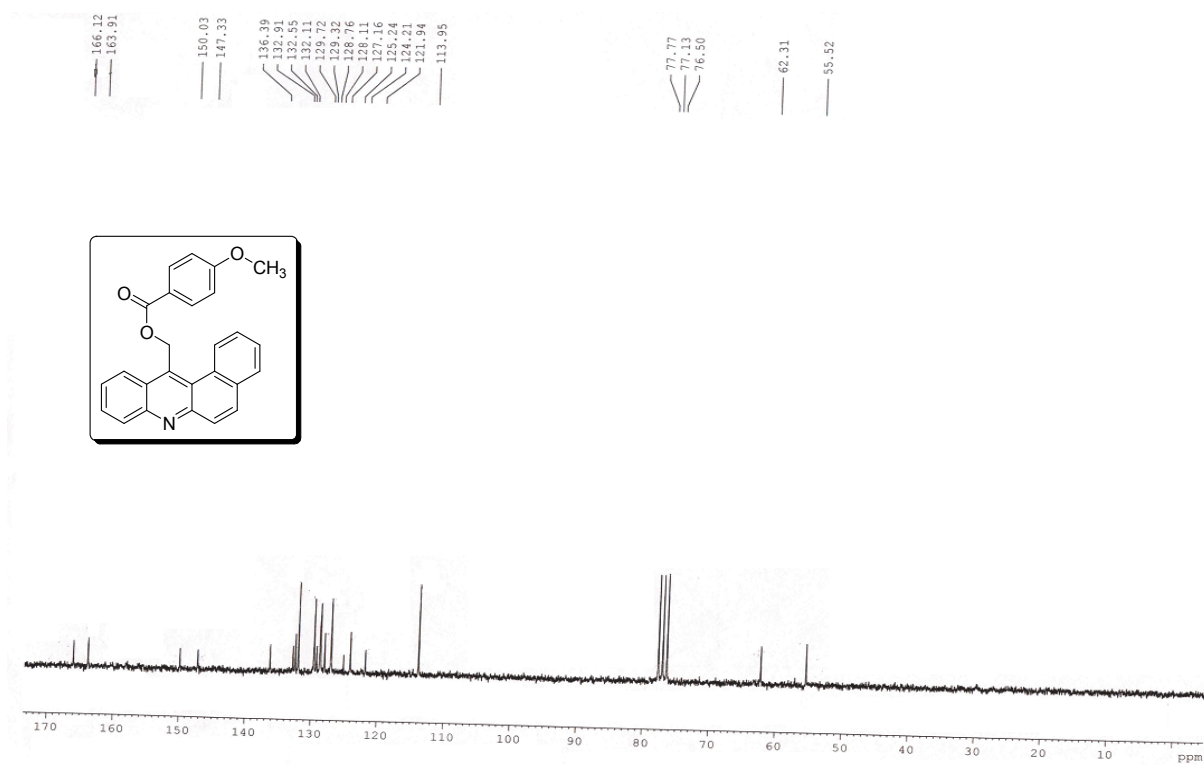
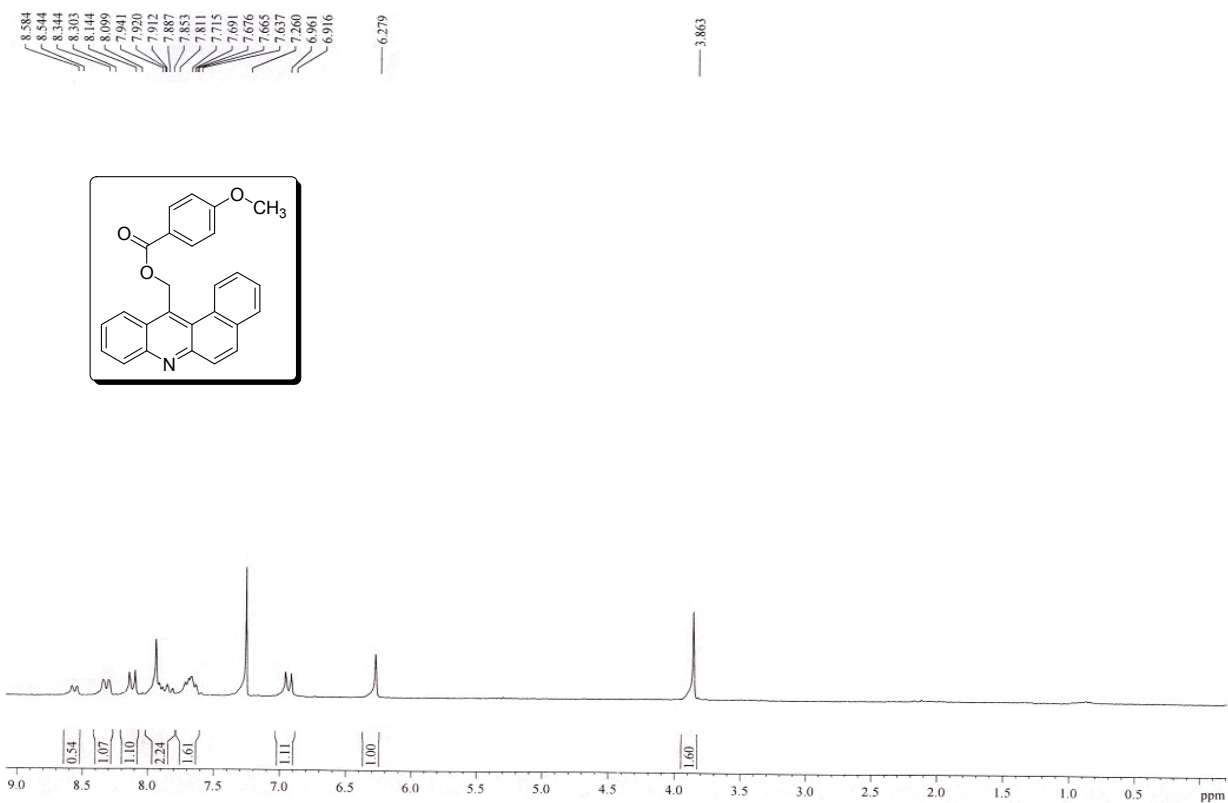


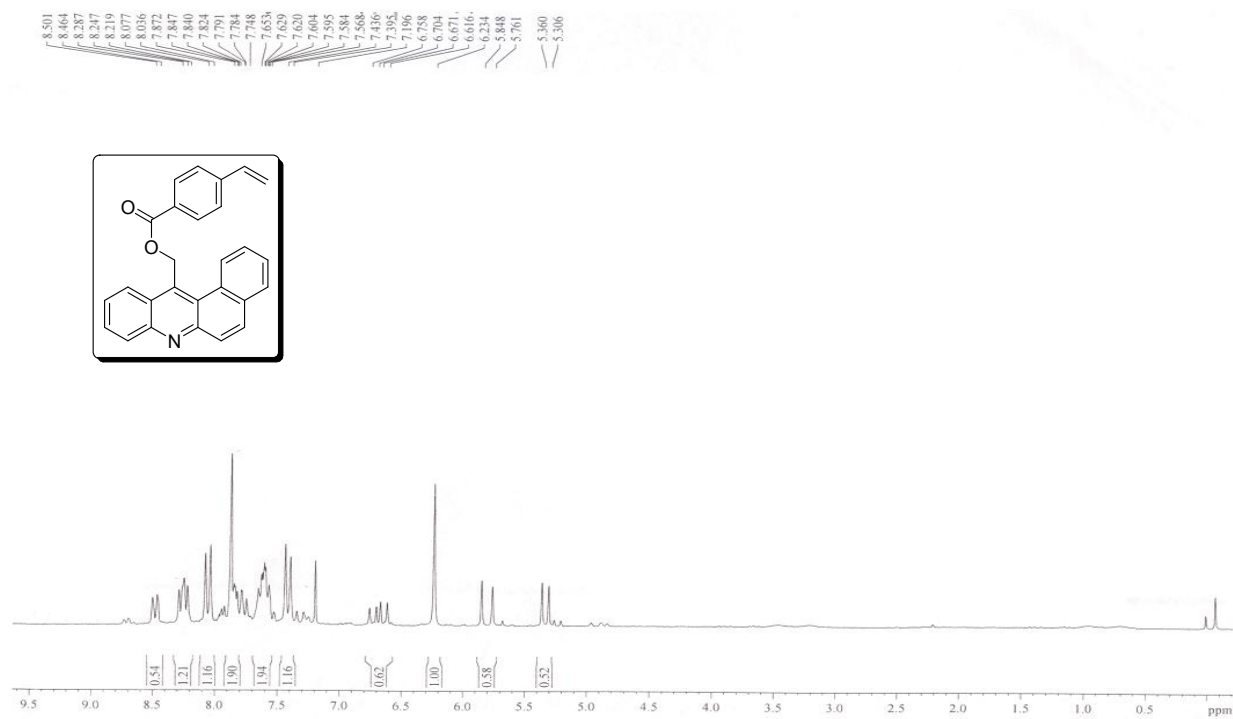
¹H NMR spectrum of (benzo[a]acridin-12-yl)methyl benzoate (5b) (CDCl₃, 200 MHz).



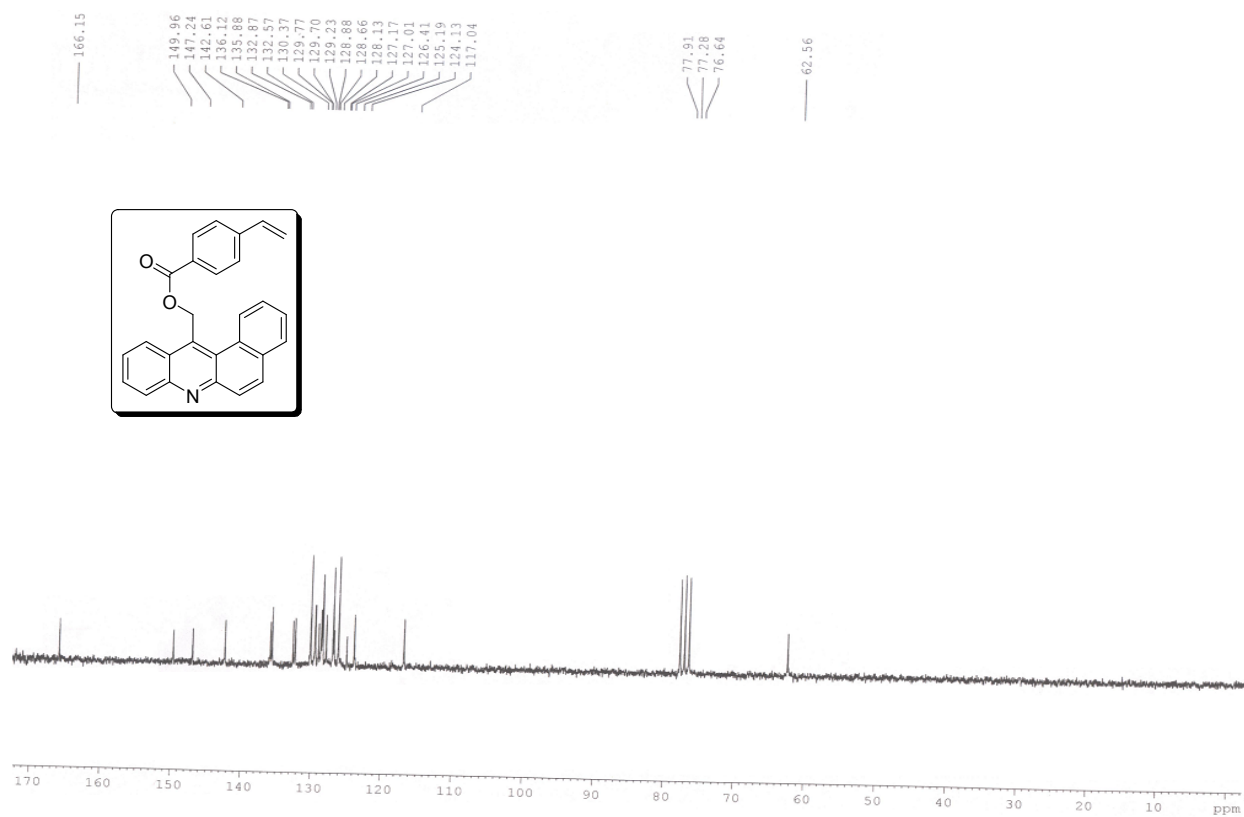
¹³C NMR spectrum of (benzo[a]acridin-12-yl)methyl benzoate (5b) (CDCl₃, 100 MHz).







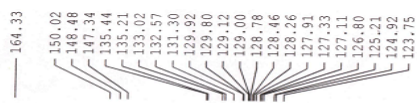
¹H NMR spectrum of (benzo[a]acridin-12-yl)methyl 4-vinylbenzoate (5e) (CDCl₃, 200 MHz)



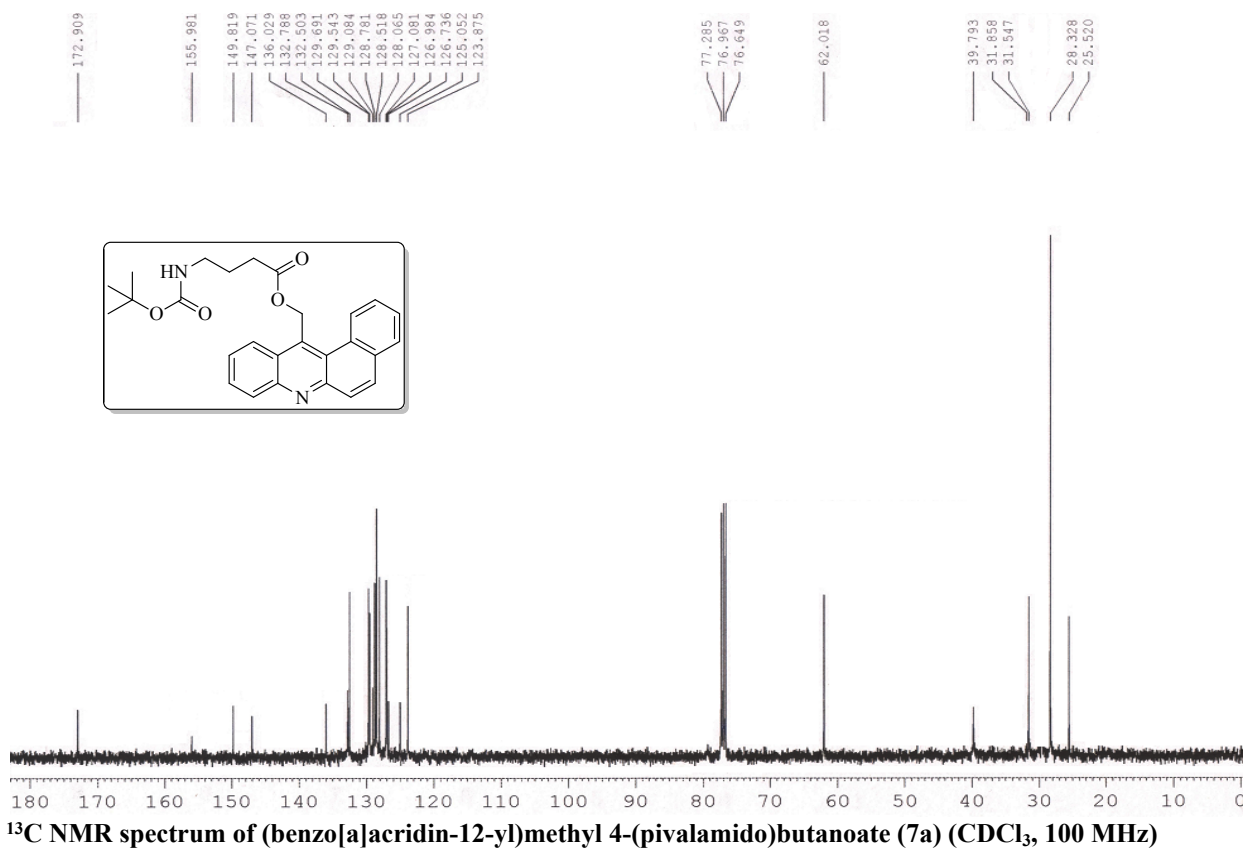
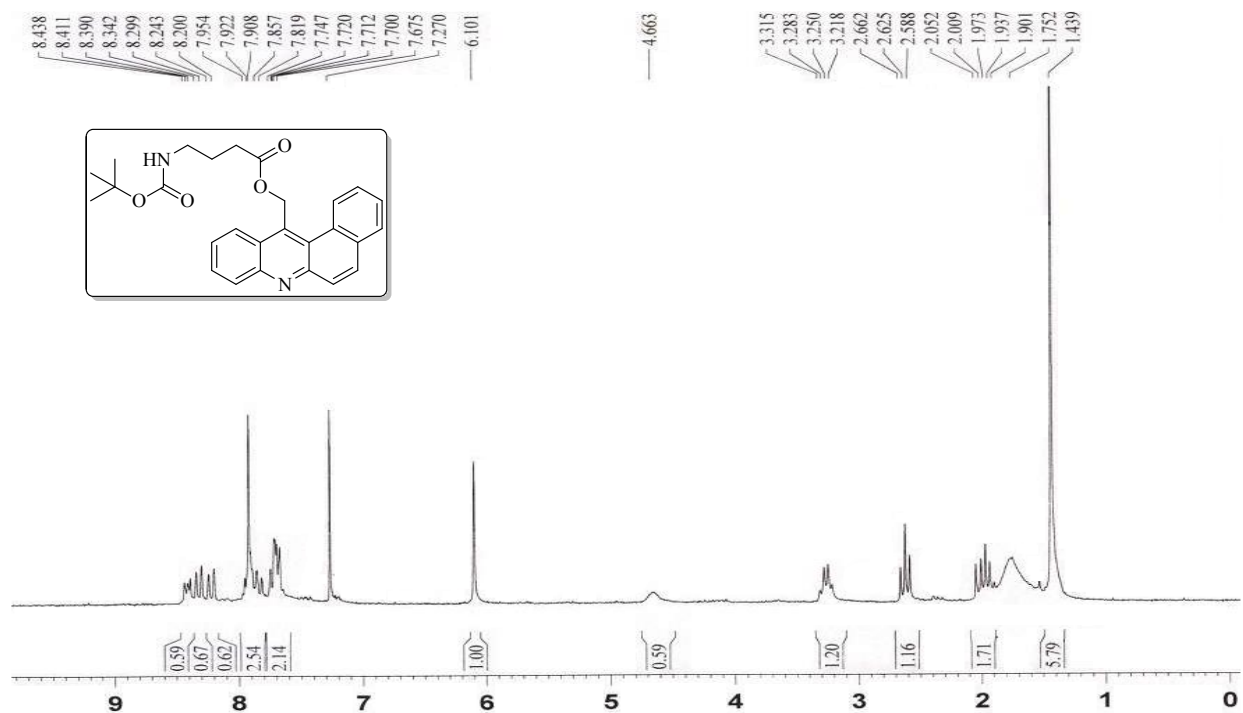
¹³C NMR spectrum of (benzo[a]acridin-12-yl)methyl 4-vinylbenzoate (5e) (CDCl₃, 100 MHz)

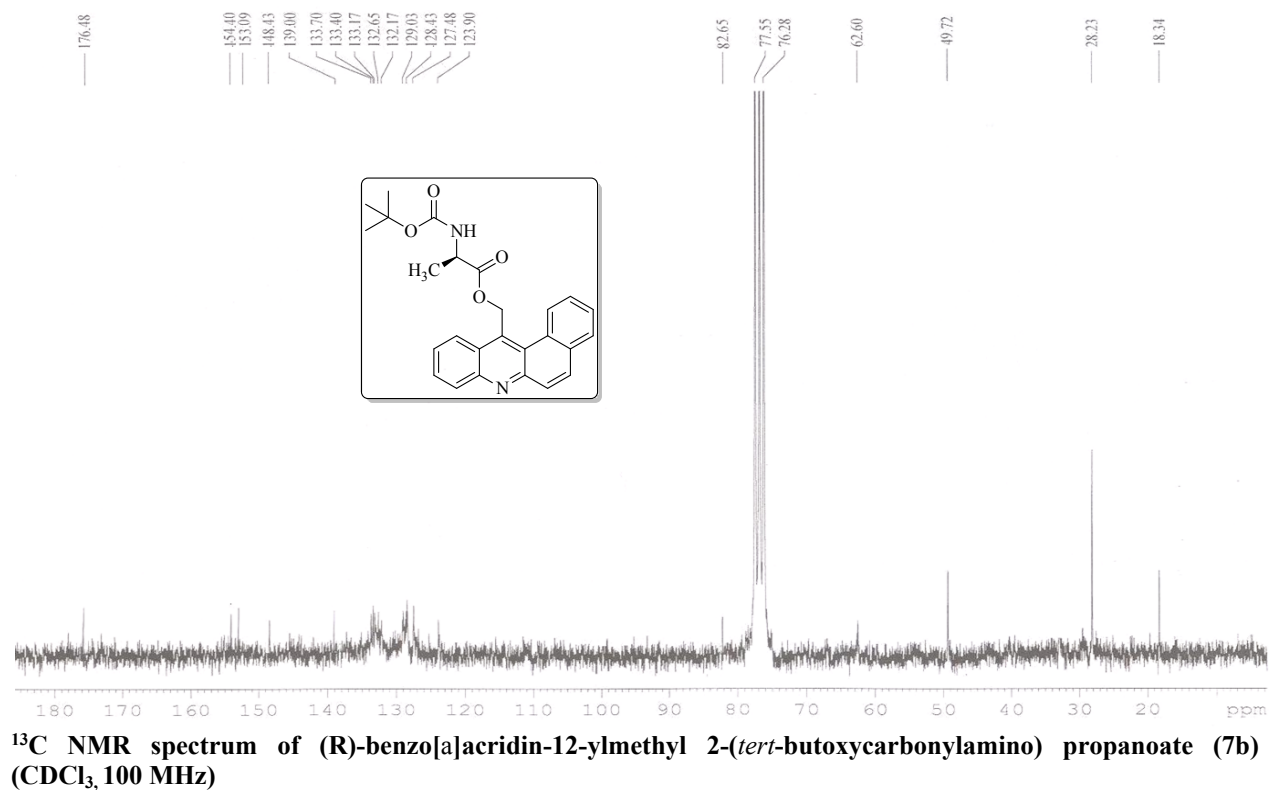
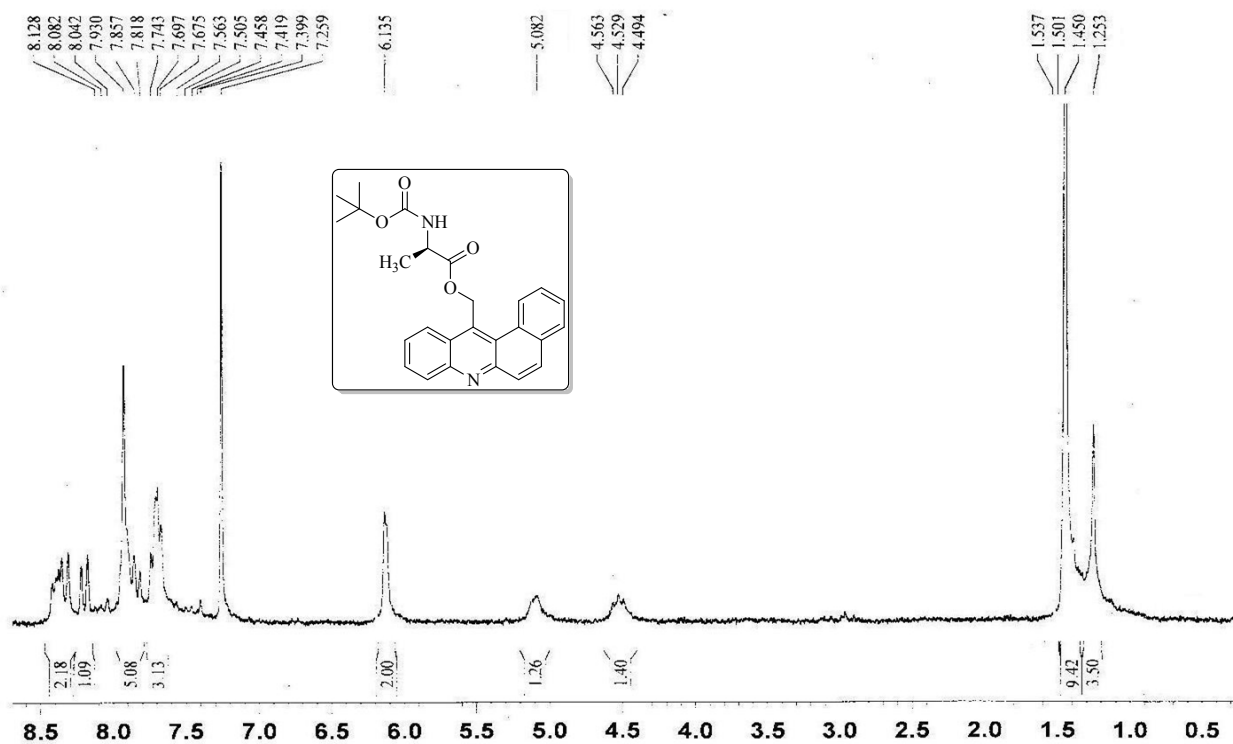


¹H NMR spectrum of (benzo[a]acridin-12-yl)methyl 4-nitrobenzoate (5f) (CDCl₃, 200 MHz)



¹³C NMR spectrum of (benzo[a]acridin-12-yl)methyl 4-nitrobenzoate (5f) (CDCl₃, 50 MHz)





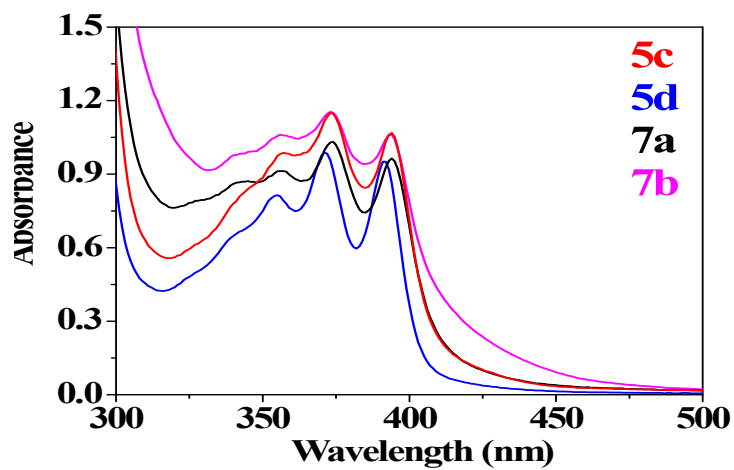


Figure-S1. UV-vis absorption spectra of representative esters (5c-5d) and (7a-b) in MeOH (2.0×10^{-4} M)

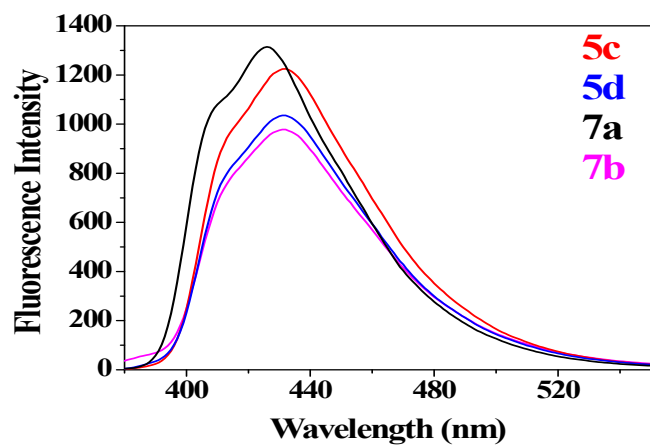


Figure-S2. Emission spectra of representative esters (5c-5d) and (7a-b) in MeOH (2.0×10^{-4} M)

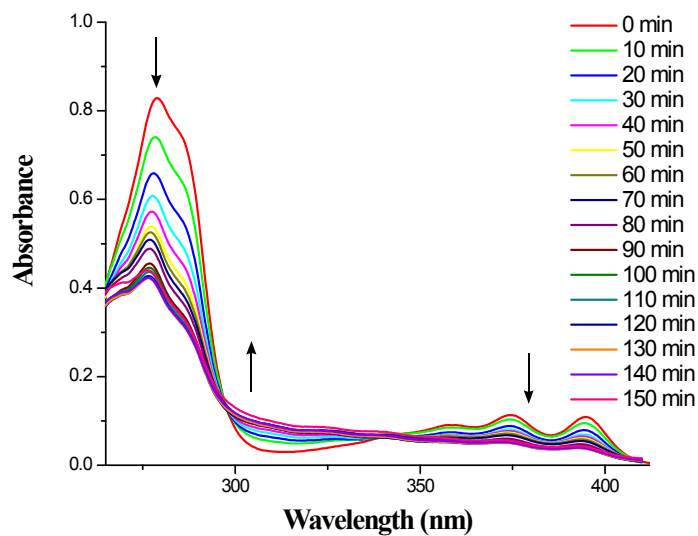


Figure-S3. UV-vis spectral change of ester **5d** (2×10^{-4} M) in ACN-H₂O (50-50 v/v) at regular intervals of irradiation (0-150 min).

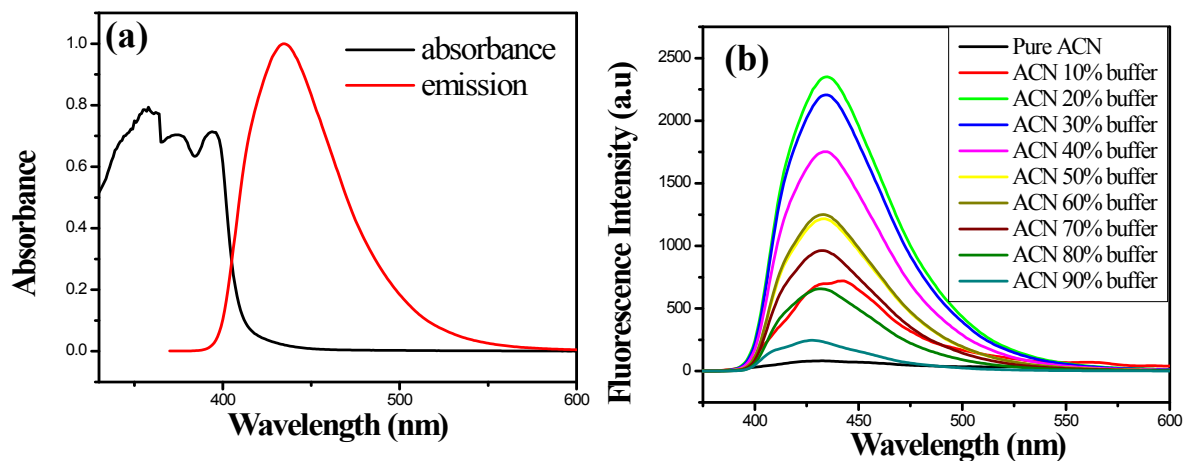


Figure-S4.a. Normalized UV-vis absorption spectrum (black line) and emission spectrum (red line) of ester **5c** in ACN:HEPES (30:70) **b.** Fluorescence spectra of the ester **5c** in ACN and in increasing percentage of HEPES buffer in ACN (2.0×10^{-5} M).

Table-S1. Photolytic data of BAM esters (5c) on irradiation (≥ 410 nm) in acetonitrile-HEPES (30:70 v/v)

Ester	Carboxylic acid	Time of photolysis (min)	% of acid generated ^a	Quantum yield (ϕ_p) ^b
5c	p- $\text{CH}_3\text{C}_6\text{H}_4\text{CO}_2\text{H}$	400	90	0.106

^a % of carboxylic acid released as determined by HPLC, ^b photochemical quantum yield for the generated carboxylic acids (error limit within $\pm 5\%$).

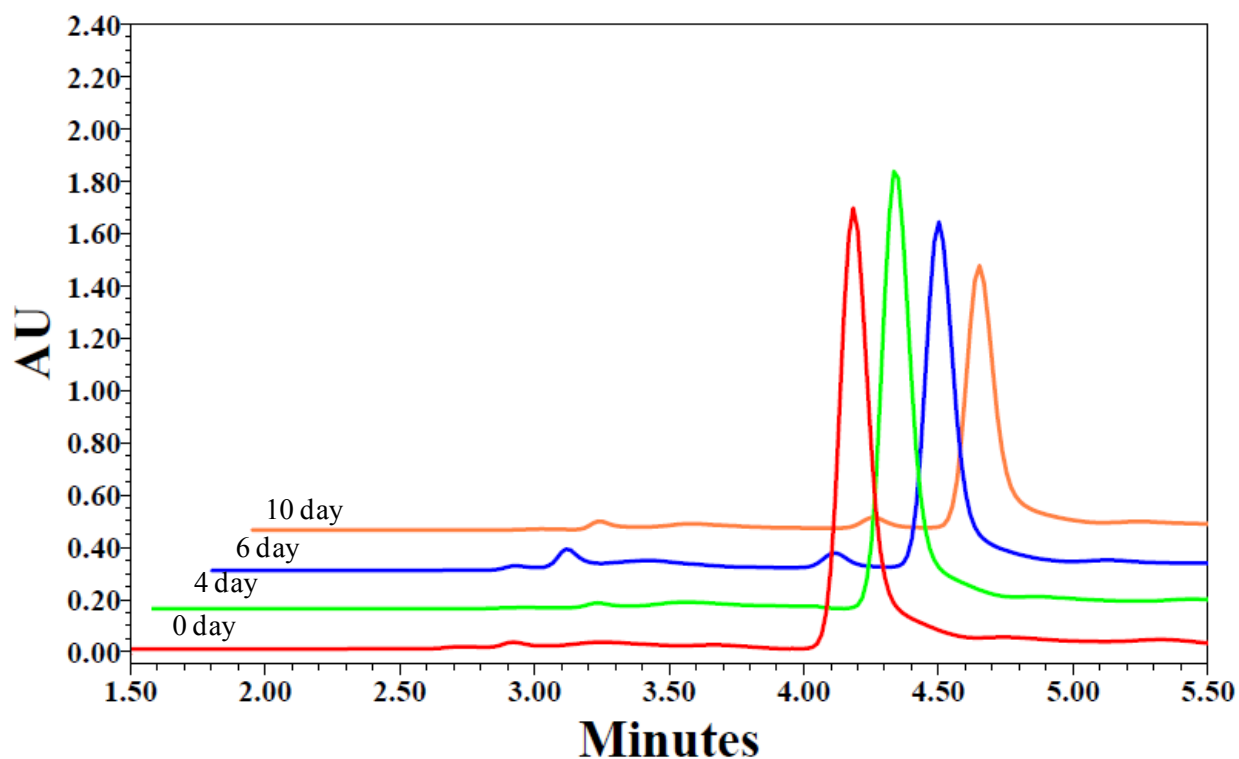
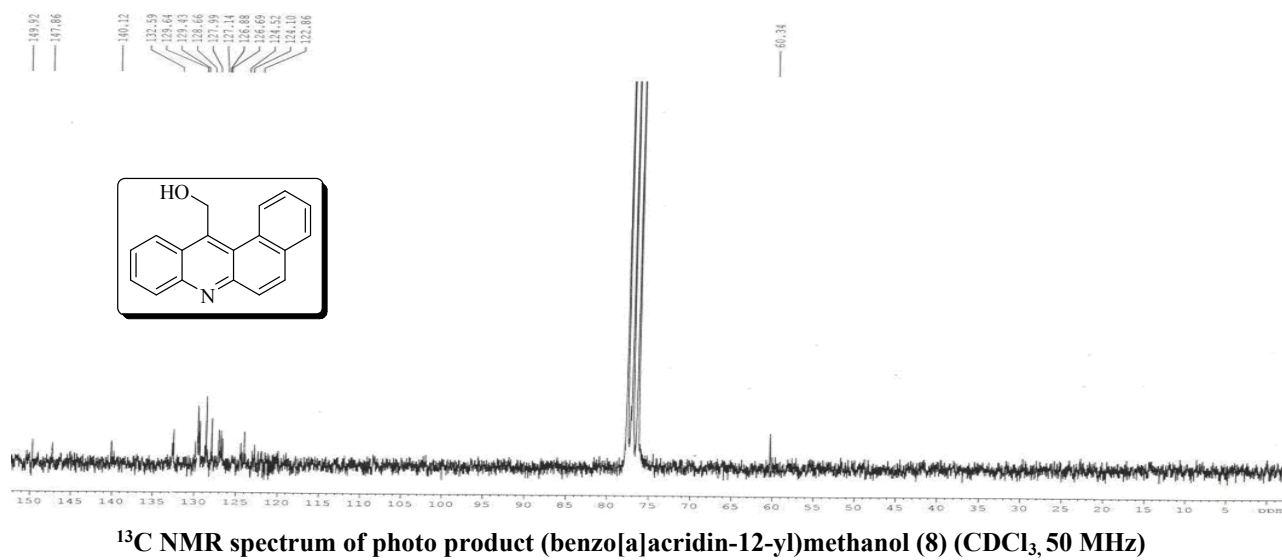
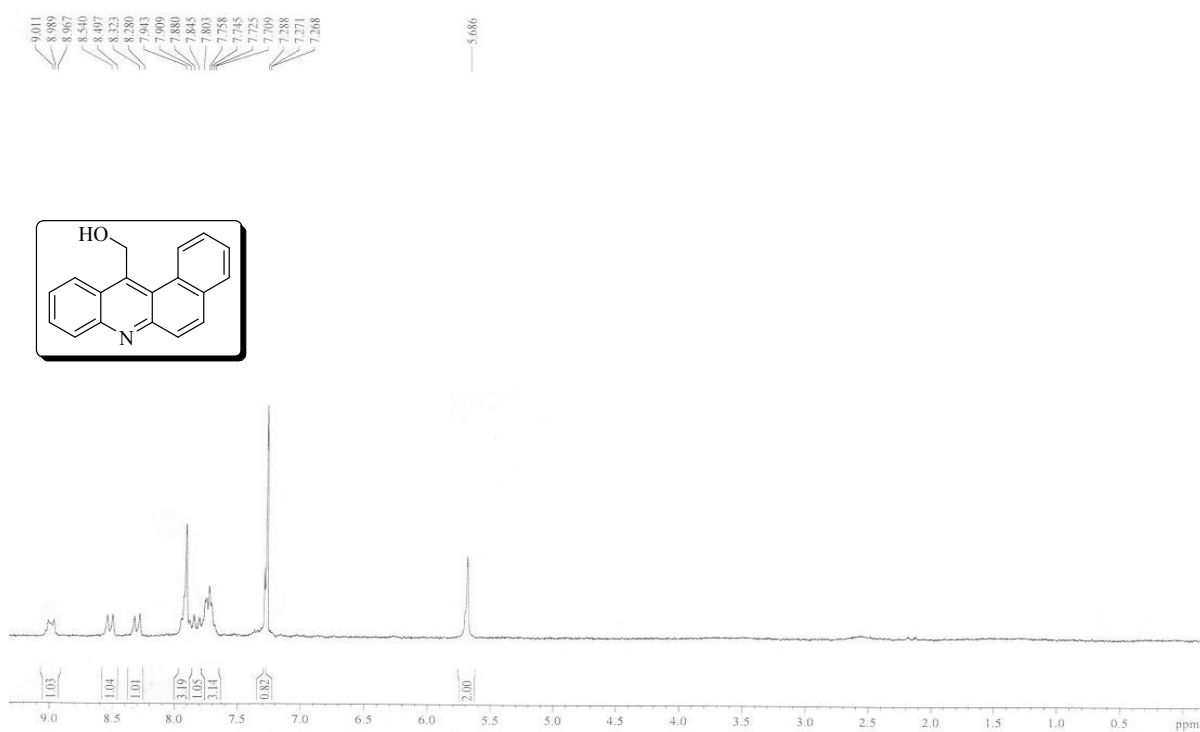
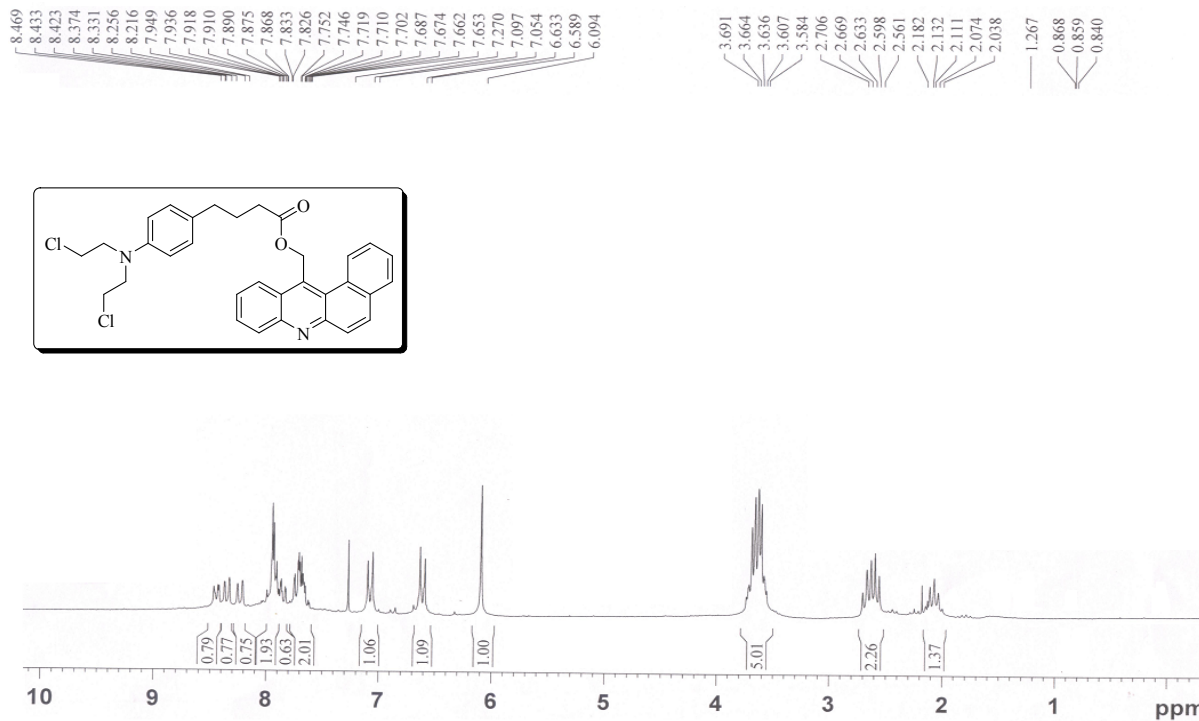
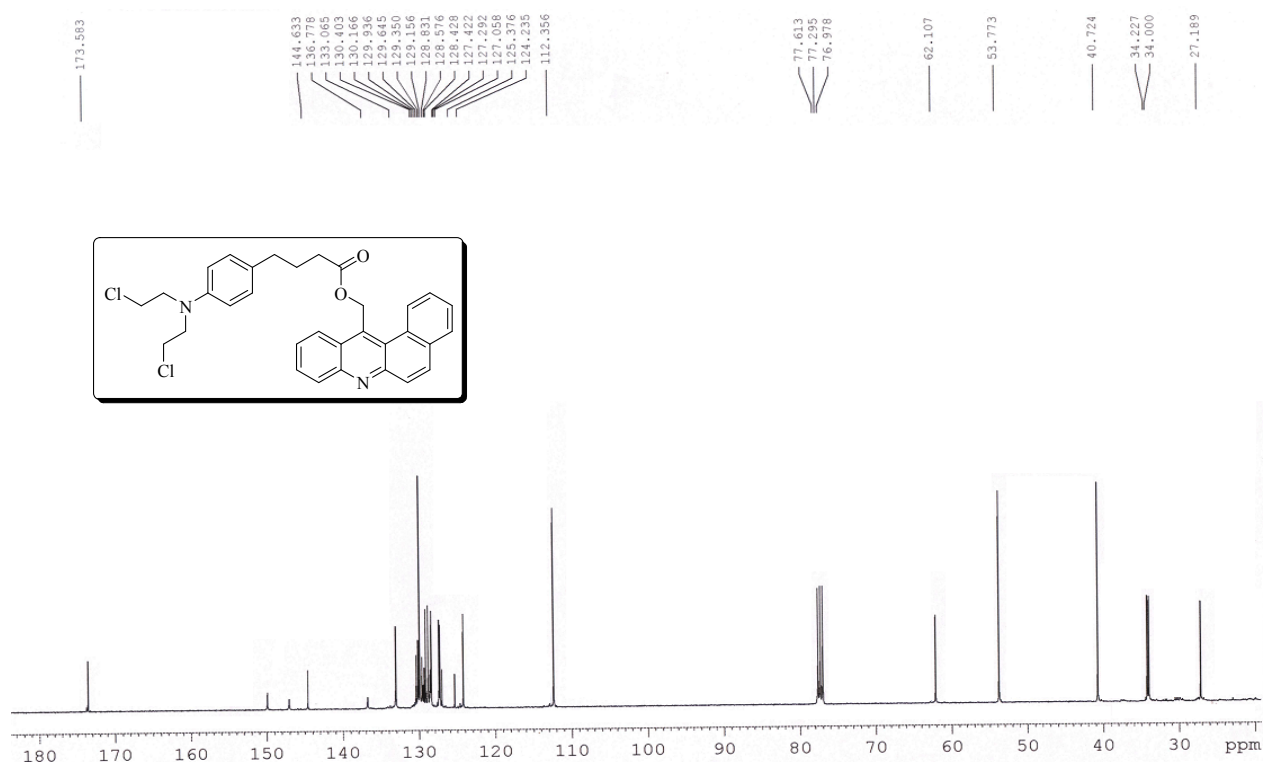


Figure-S5. HPLC profile of BAM-Cbl stability in DMSO supplemented with 10% fetal bovine serum and incubated at 37 °C in the dark for a period of 10 days (X axis is offset by 10 s and the Y axis is offset by 10 mAU for better visualization).





¹H NMR spectrum of (benzo[a]acridin-12-yl)methyl 4-(4-(bis(2-chloroethyl)amino)phenyl)butanoate (10) (CDCl₃, 200 MHz)



¹³C NMR spectrum of (benzo[a]acridin-12-yl)methyl 4-(4-(bis(2-chloroethyl)amino)phenyl)butanoate (10) (CDCl₃, 100 MHz)