

SUPPORTING INFORMATION

Title: Aminobenzocoumarinylmethyl esters as photoactive precursors for the release of butyric acid

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TABLE OF CONTENTS

	page
1. Absorption for compounds 2 , 3a,b and 4a,b , EEM and decay associated spectra for compound 2 in MeOH/HEPES (80:20) and difference between frontier orbitals for compounds 3a,b and 4a,b	2
2. ¹ H and ¹³ C NMR spectra of compounds 1 , 2 , 3a,b and 4a,b	4
3. UV/Vis absorption and fluorescence spectra for compounds 1 , 2 , 3a,b and 4a,b in ethanol	10
4. HPLC chromatograms for the photolysis of compounds 2 , 3a,b and 4a,b	11

1. Absorption for compounds **2**, **3a,b** and **4a,b**, EEM and decay associated spectra for compound **2** in MeOH/HEPES (80:20) and difference between frontier orbitals for compounds **3a,b** and **4a,b**

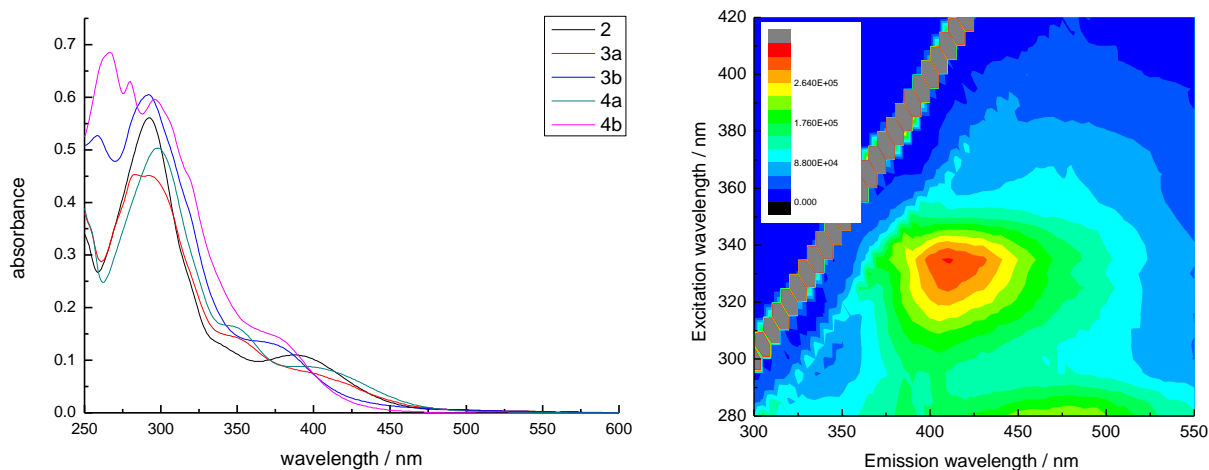


Figure S1. Absorption spectra (measured using a Shimadzu UV-1800) for compounds **2-4** in MeOH/HEPES (80:20) (left) and EEM for **2** in same solvent mixture (recorded using a FluoroLog 3) (right).

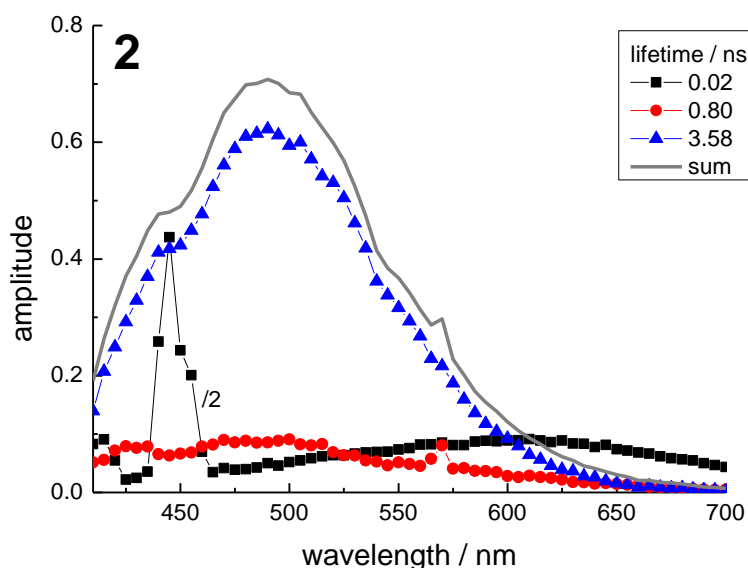


Figure S2. Decay associated spectra for compound **2** in MeOH/HEPES (80:20). The shorter-lifetime component (associated with Raman scattering at 445 nm) is omitted in calculation of the “sum” spectrum. Measured using a DeltaFlex fluorescence lifetime system with excitation at 392 nm.

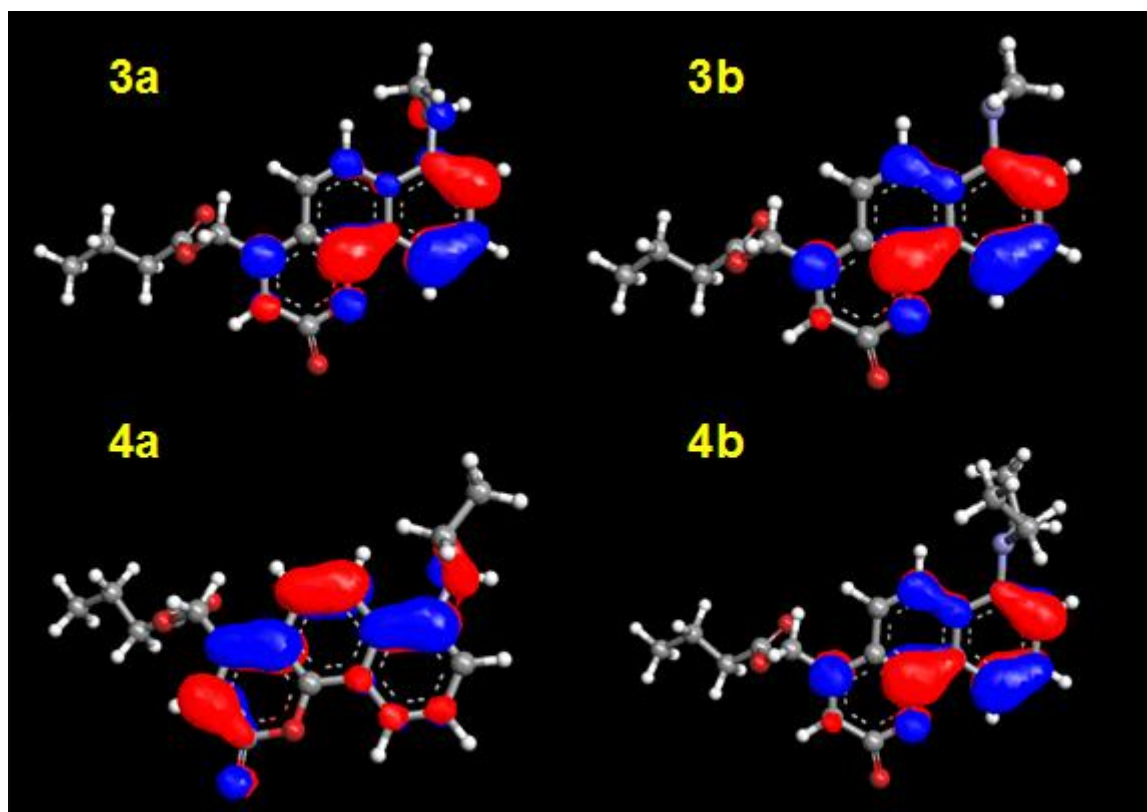
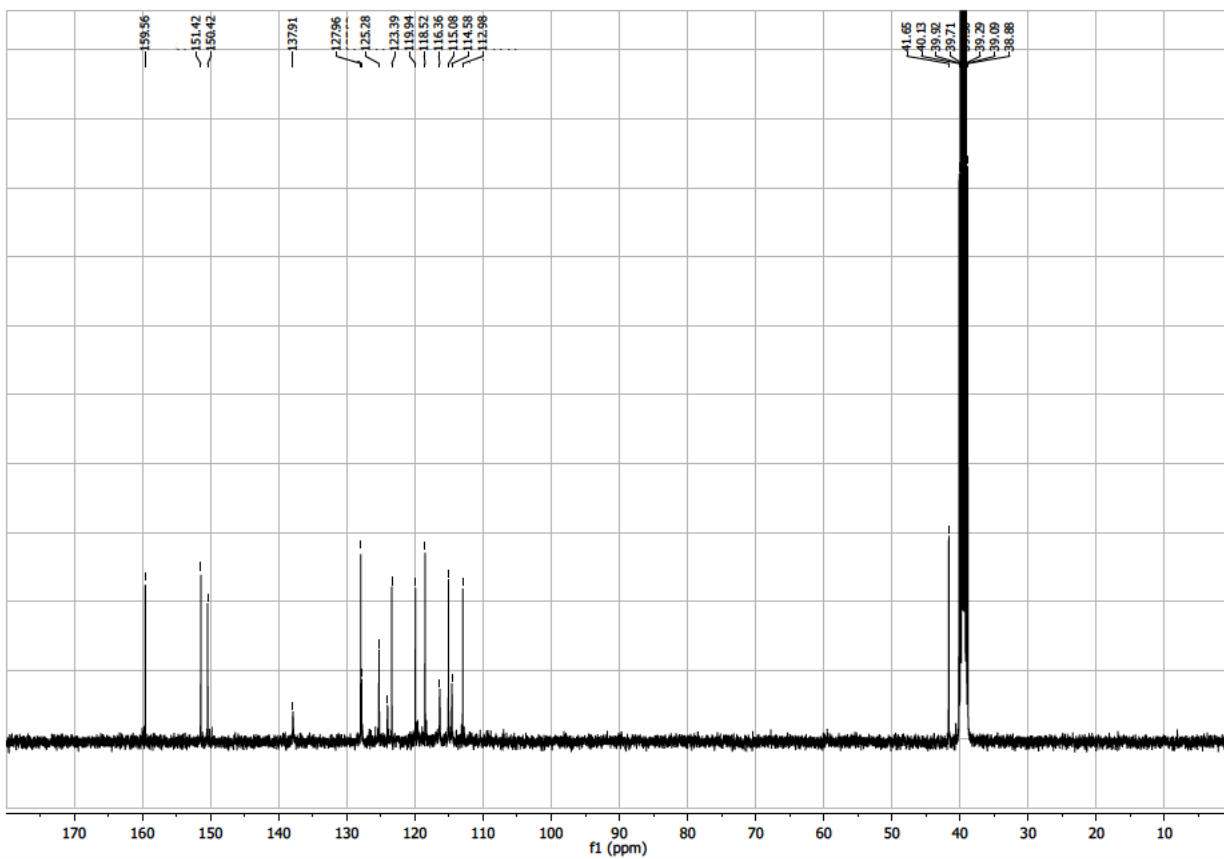
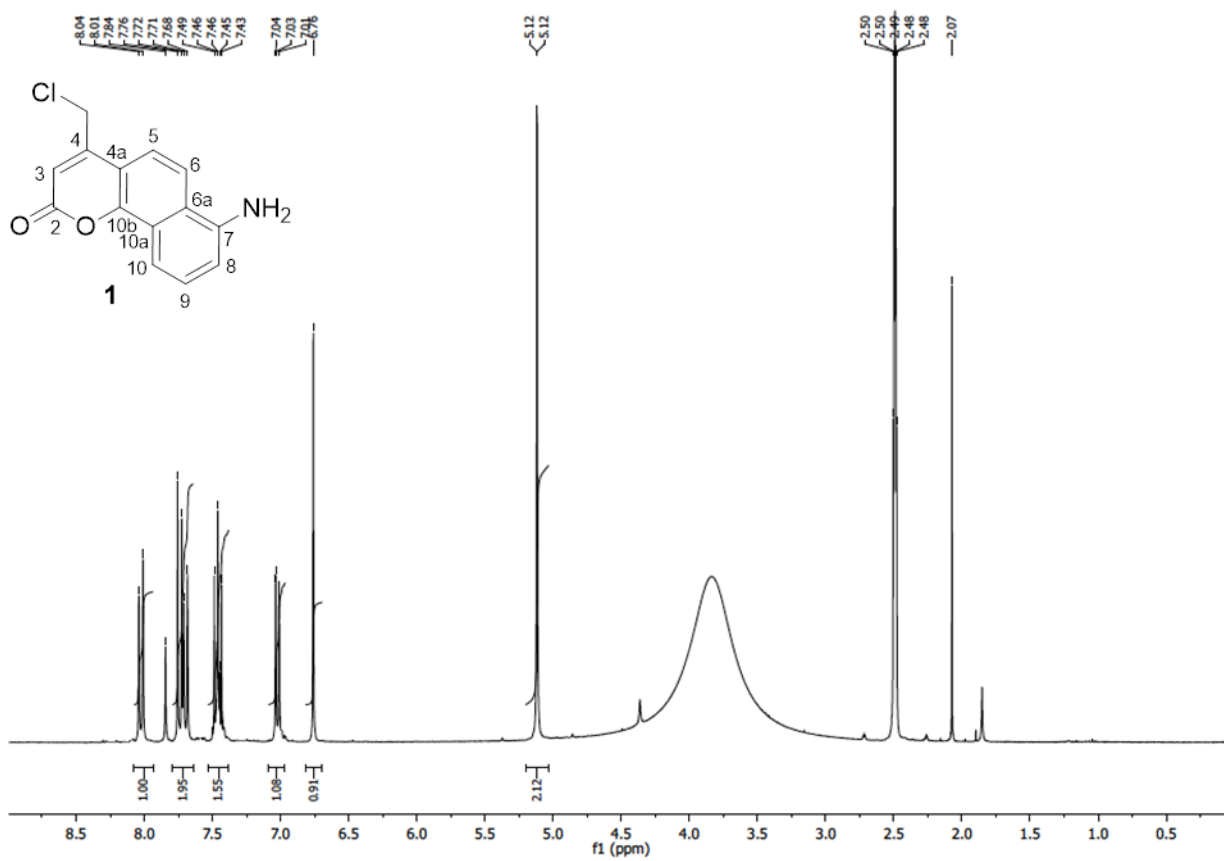
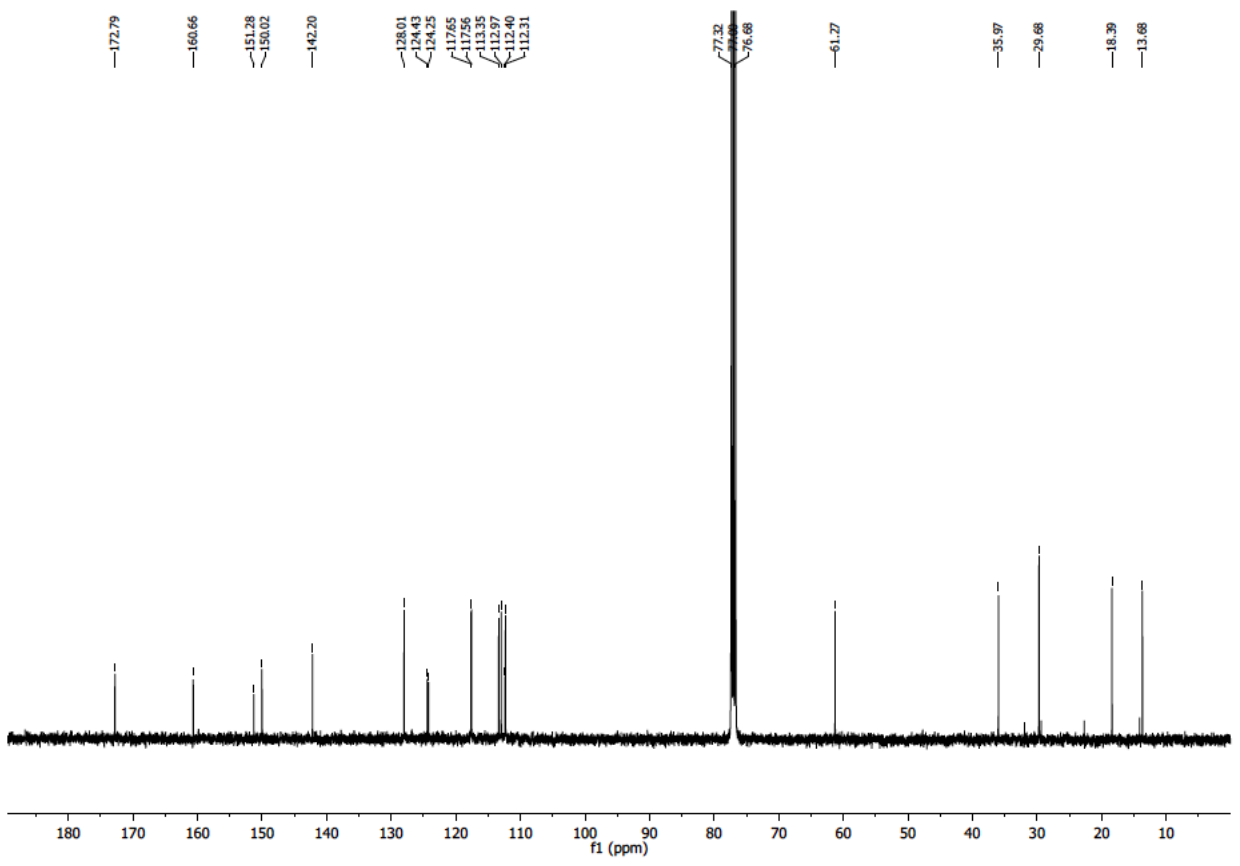
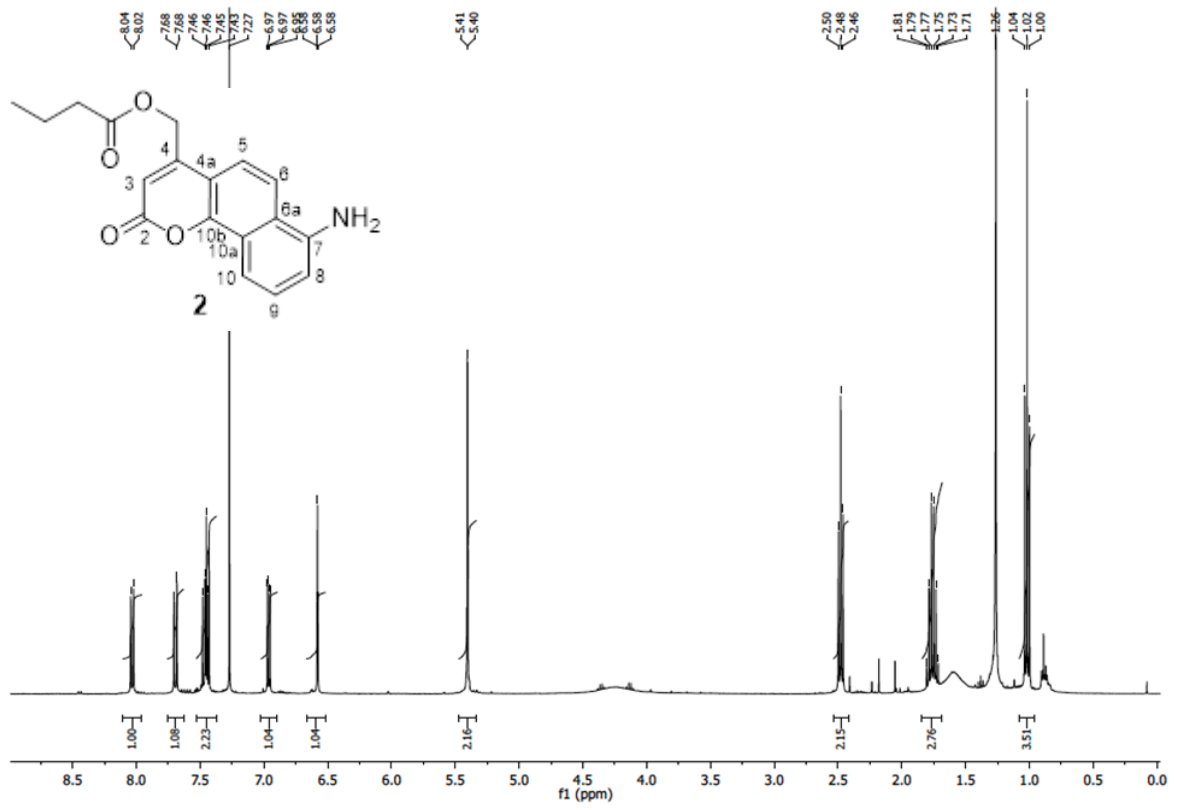
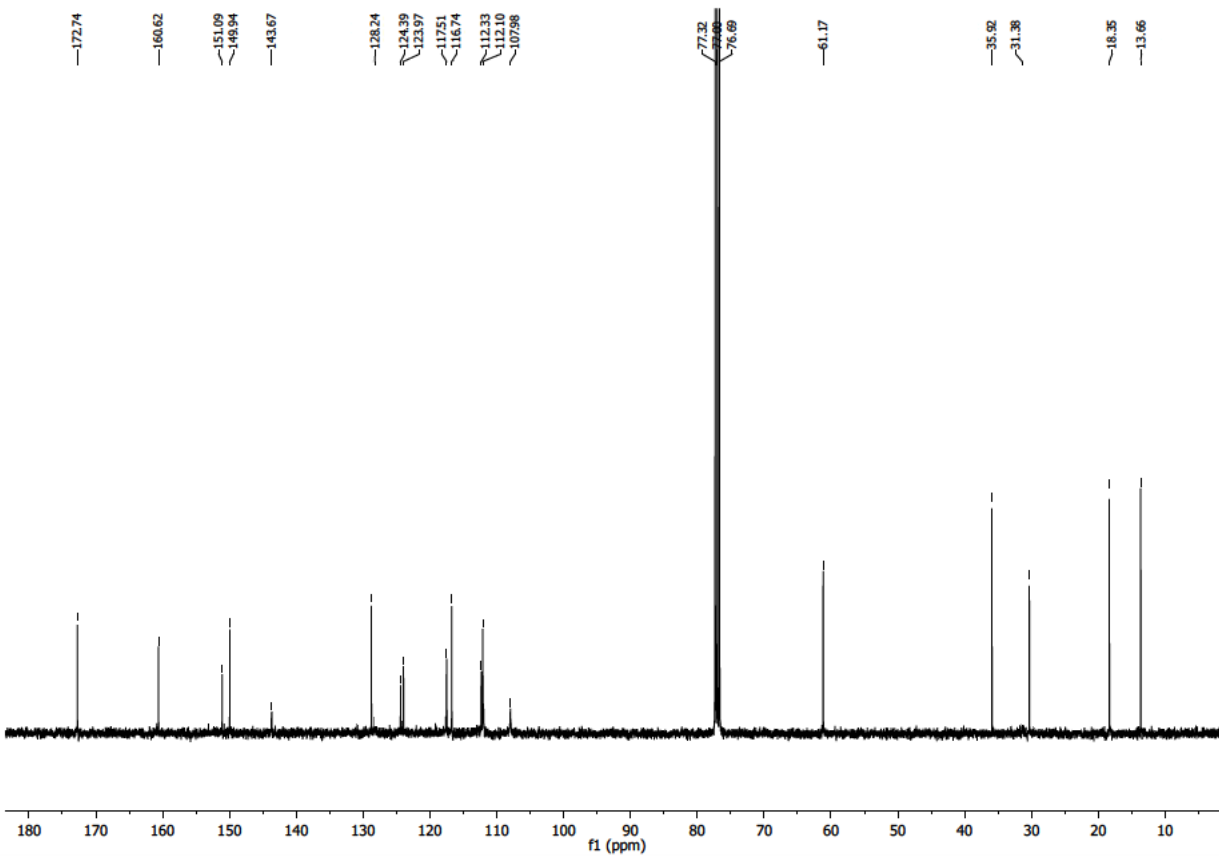
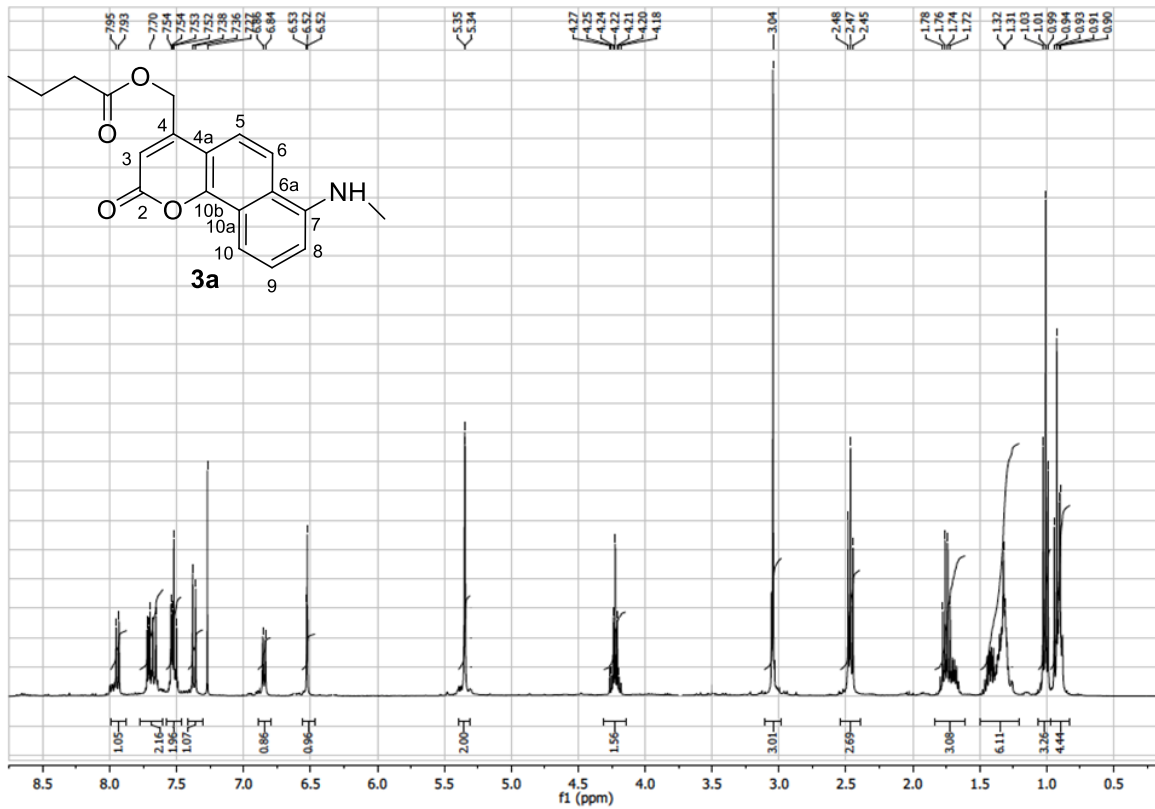


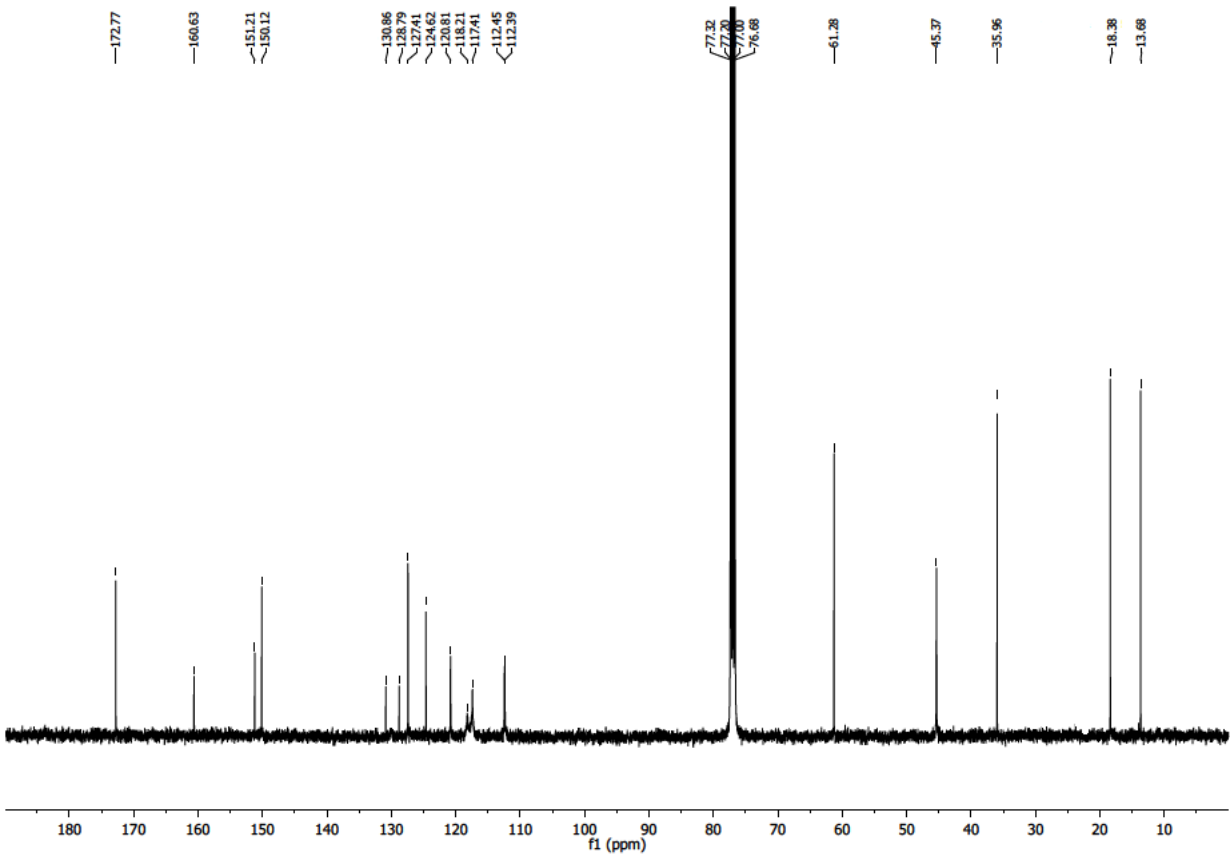
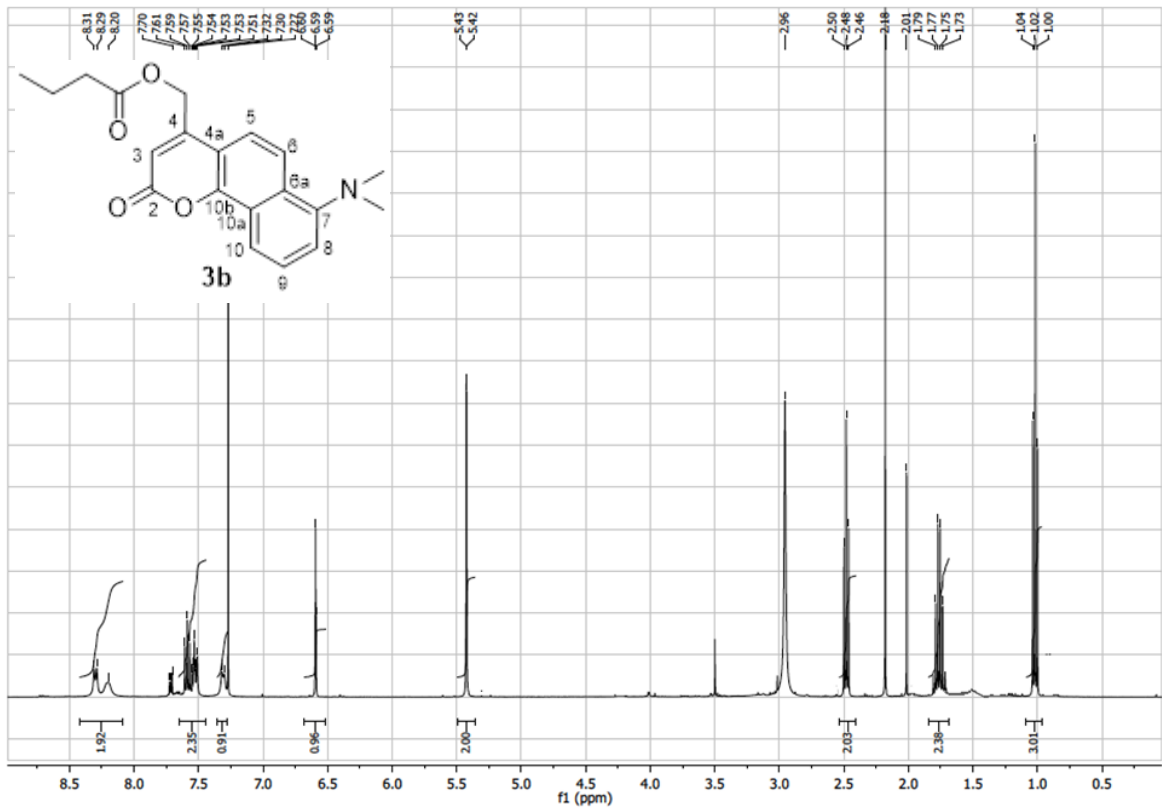
Figure S3. Difference between frontier orbitals (HOMO and LUMO; blue – positive, red – negative) for compounds **3a,b** and **4a,b**. Calculated using ArgusLab 4.0.1 software (Mark Thompson & Planaria Software LLC).

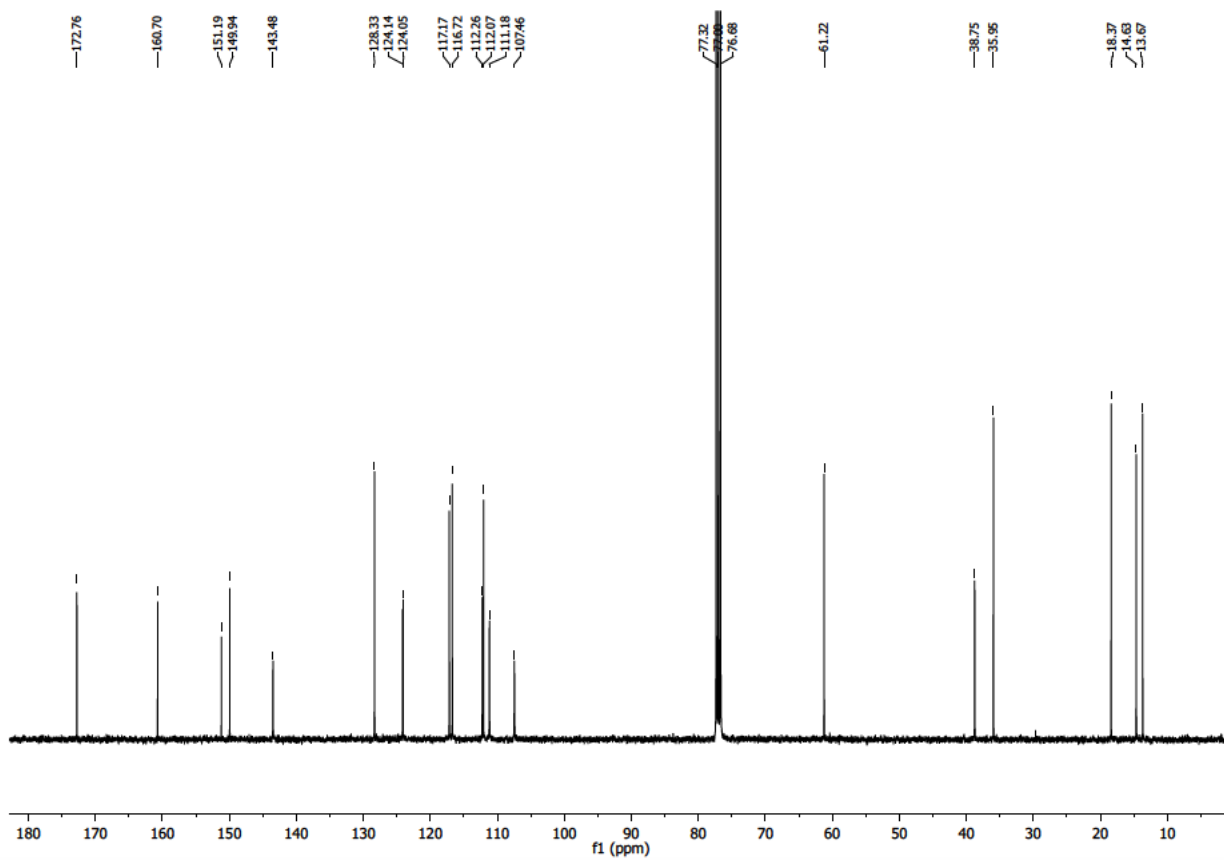
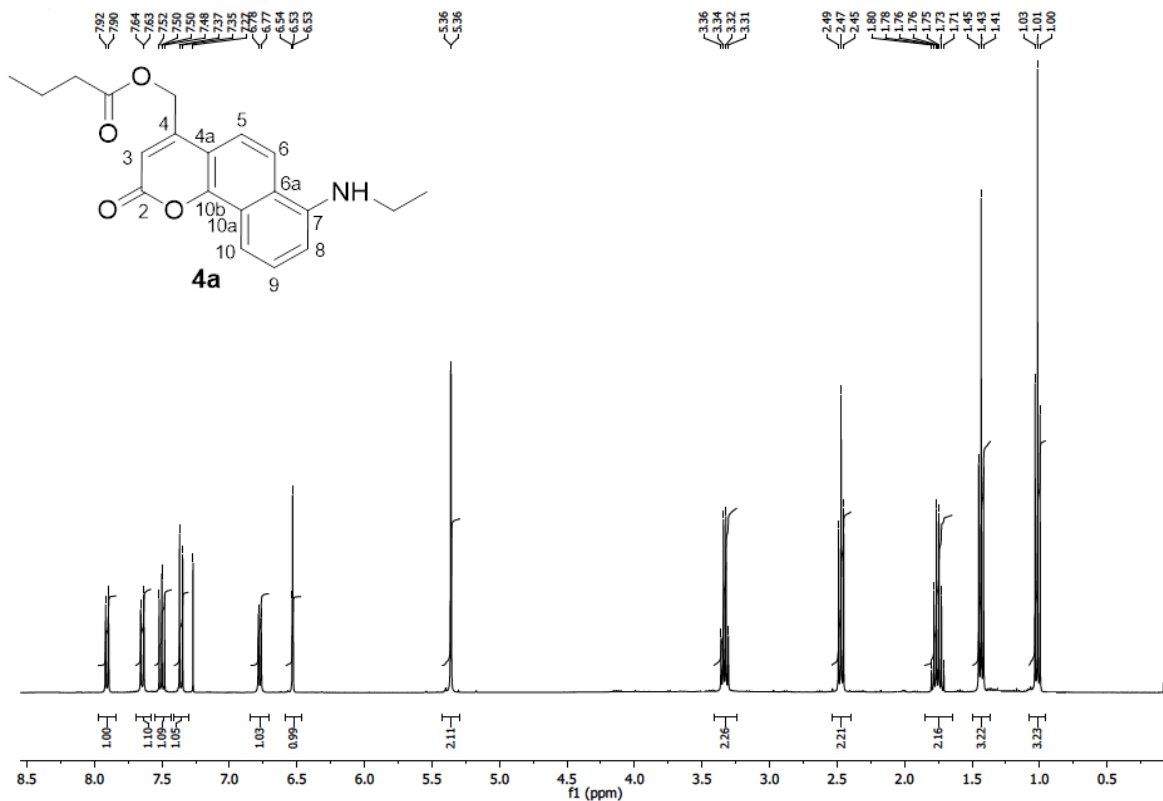
2. ^1H and ^{13}C NMR spectra of compounds **1**, **2**, **3a,b** and **4a,b**

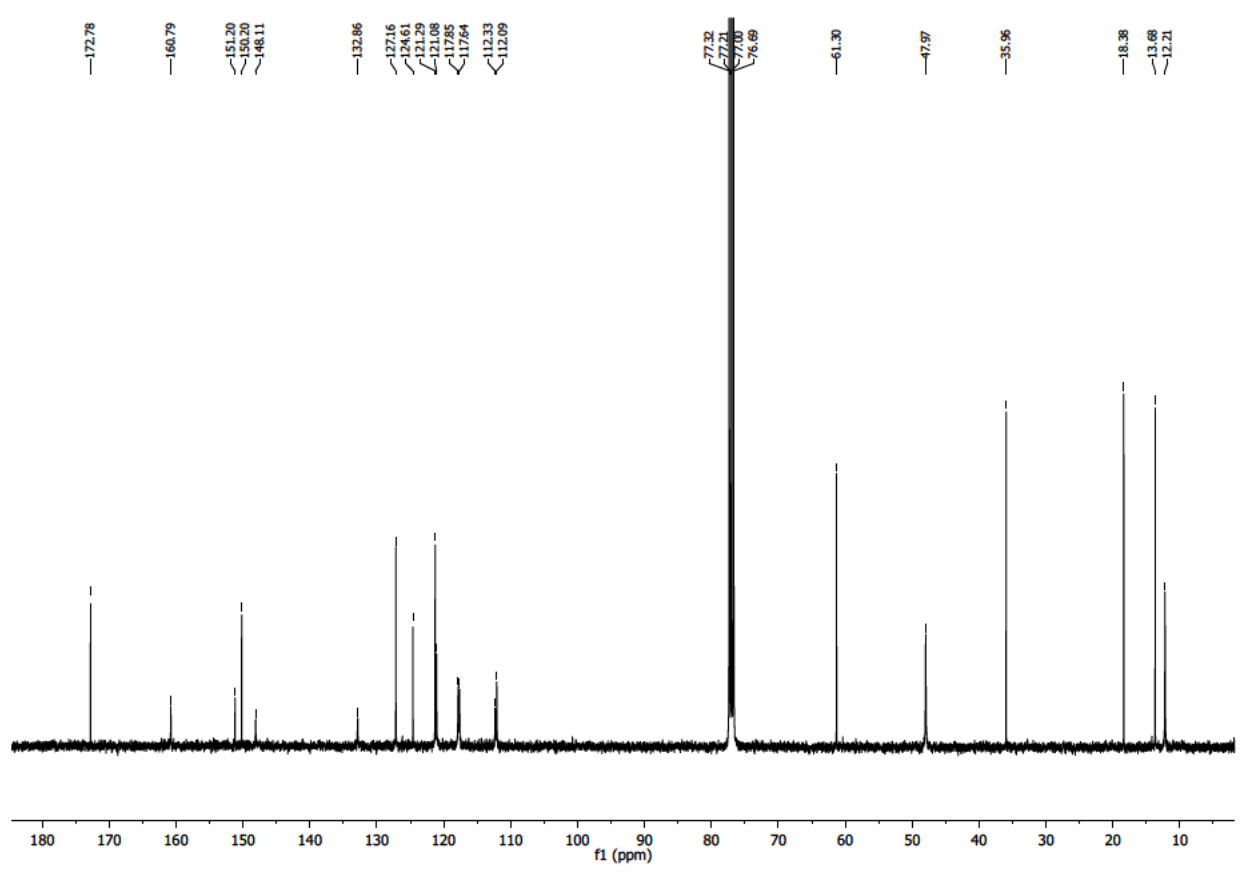
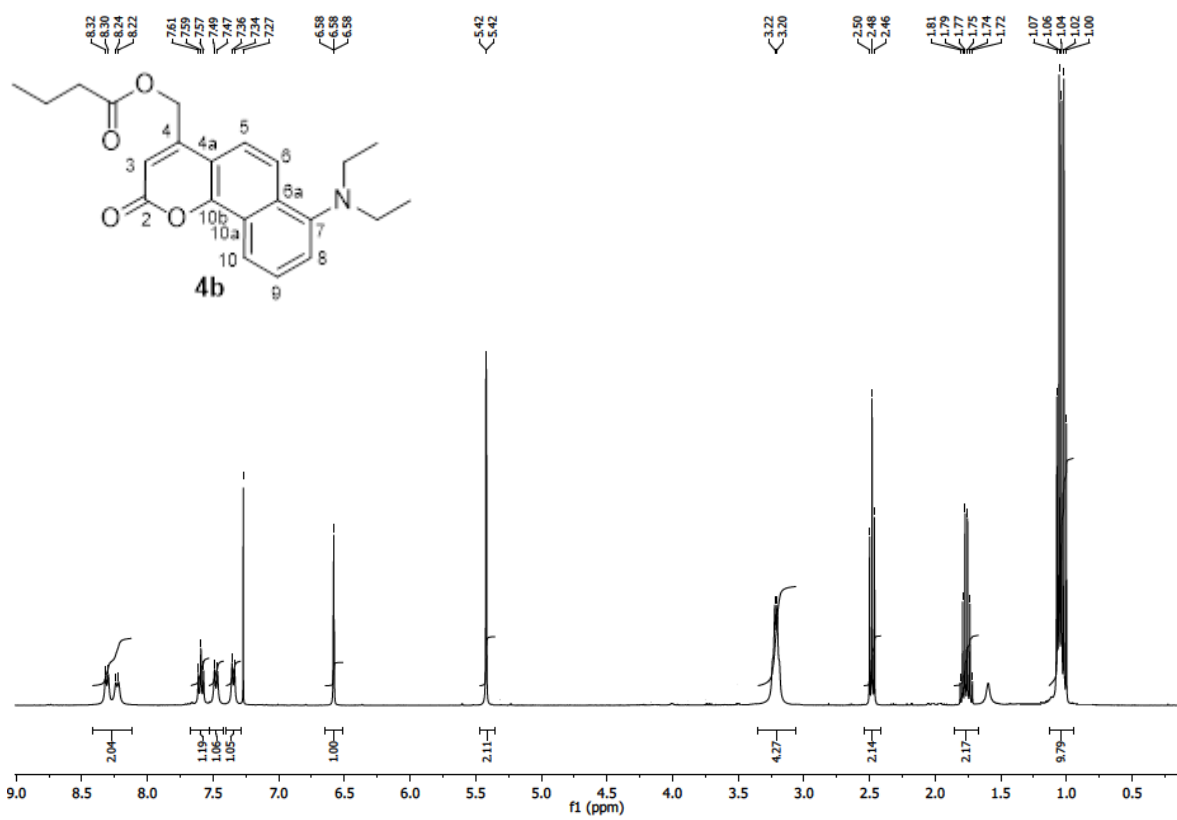




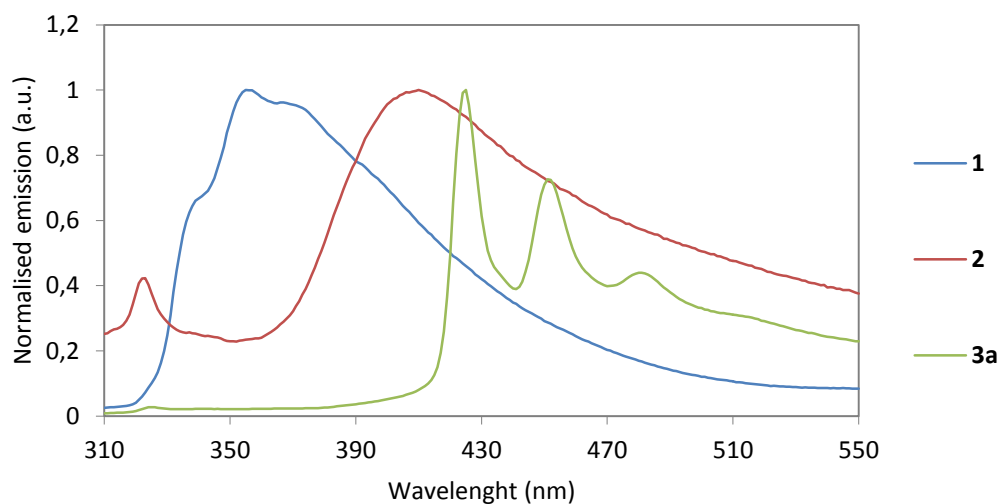
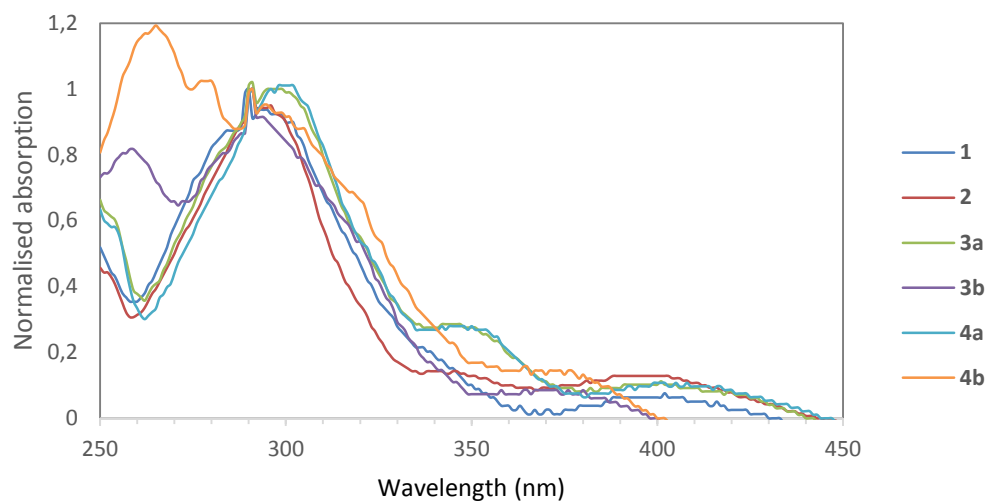




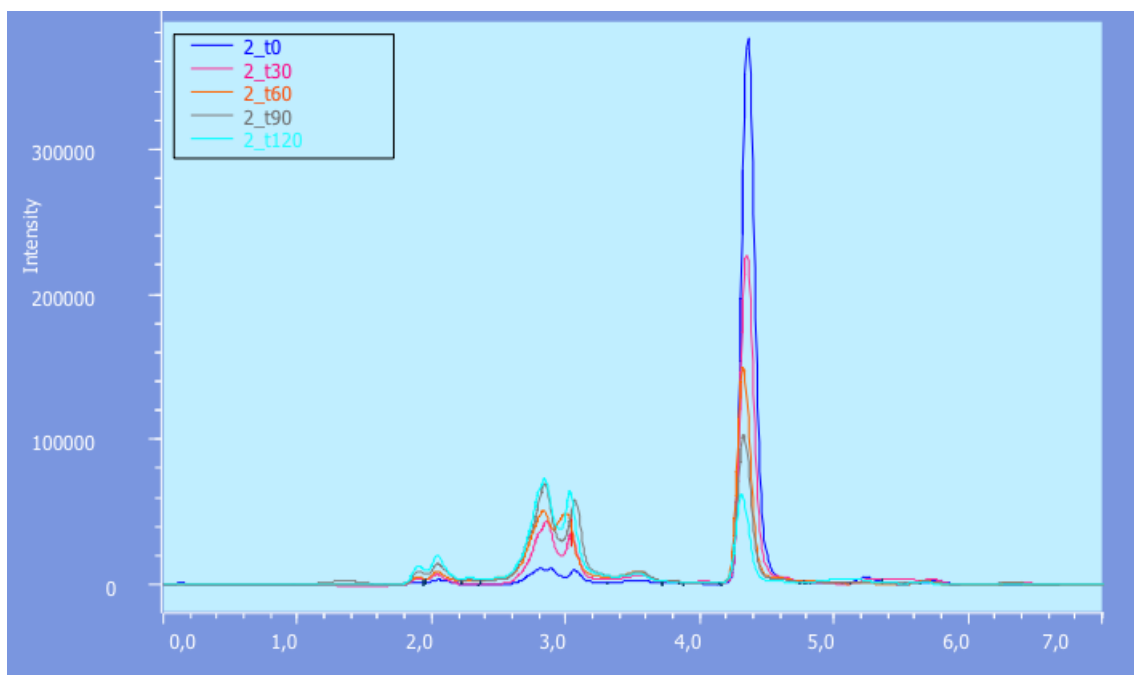




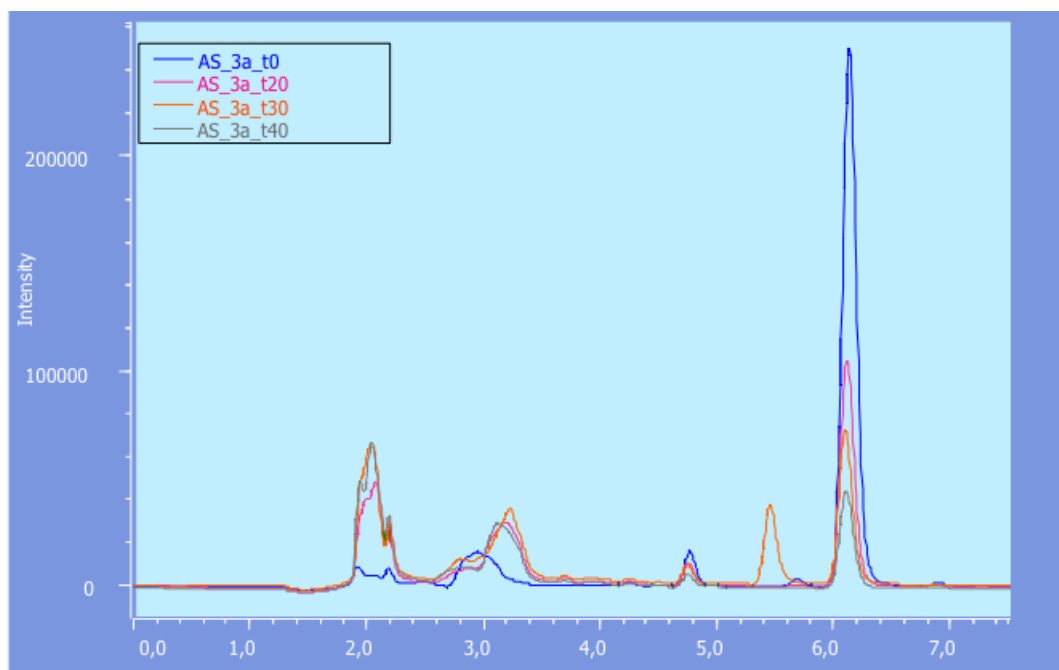
3. UV/Vis absorption and fluorescence spectra for compounds **1**, **2**, **3a-b** and **4a-b** in ethanol



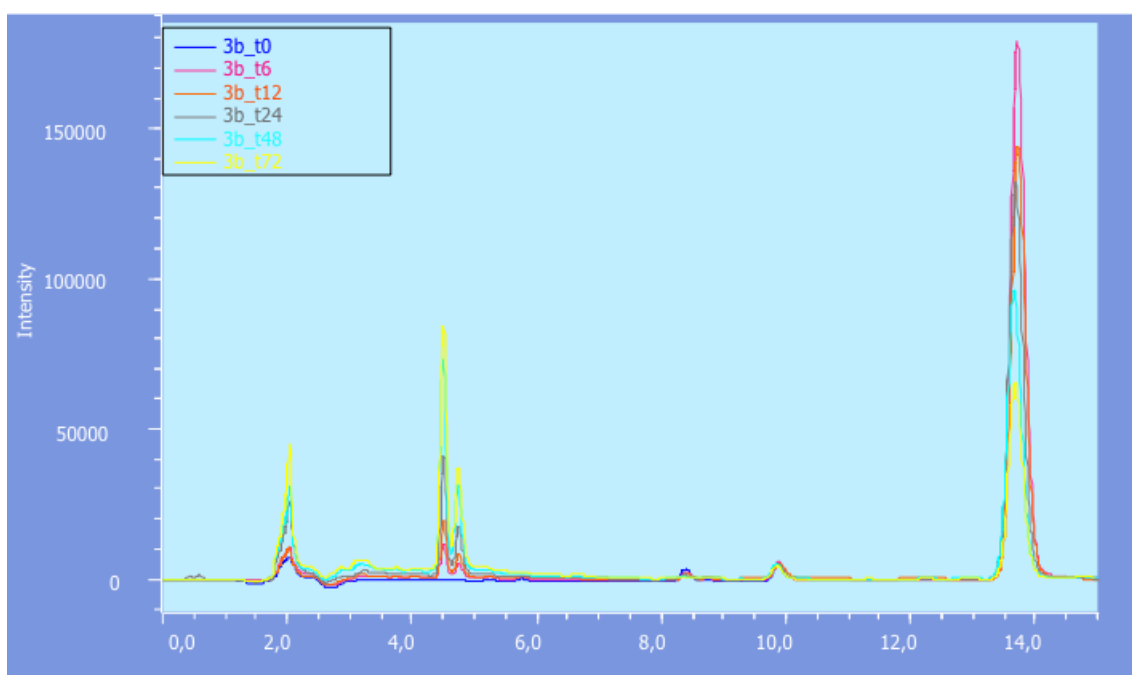
4. HPLC chromatograms for the photolysis of compounds **2**, **3a,b** and **4a,b**



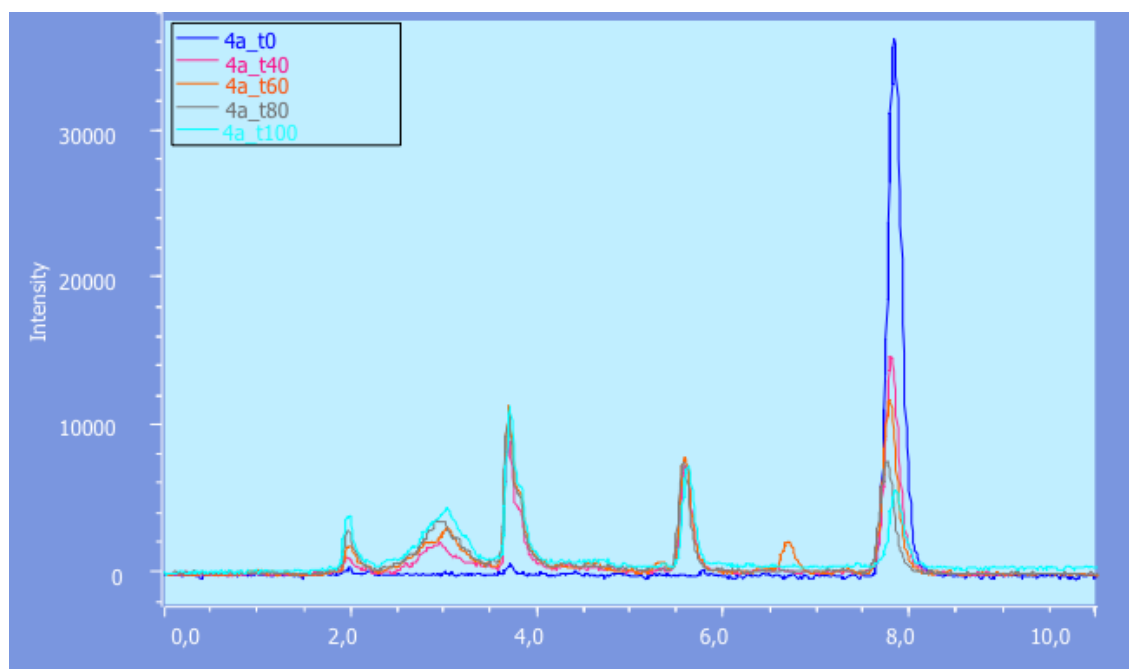
HPLC chromatogram of the photolysis of conjugate **2** (retention time 4.4 min) with eluent ACN/H₂O (75:25) at a flow rate of 0.8 mL/min, $\lambda_{\text{det}} = 293$ nm.



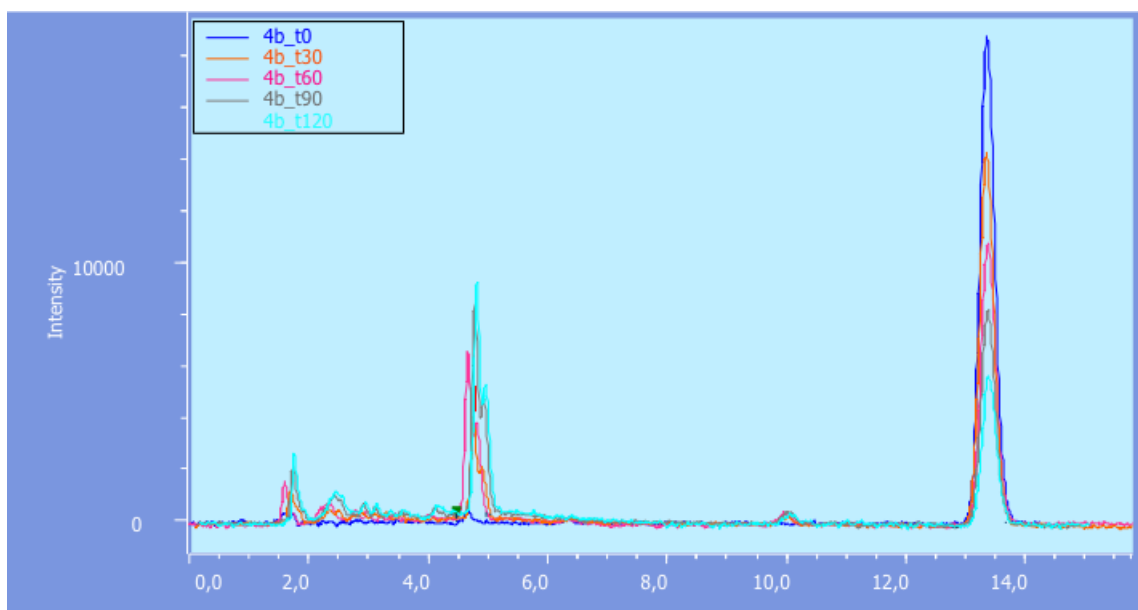
HPLC chromatogram of the photolysis of conjugate **3a** (retention time 6.3 min) with eluent ACN/H₂O (75:25) at a flow rate of 0.8 mL/min, $\lambda_{\text{det}} = 291$ nm.



HPLC chromatogram of the photolysis of conjugate **3b** (retention time 13.7 min) with eluent ACN/H₂O (75:25) at a flow rate of 0.8 mL/min, $\lambda_{\text{det}} = 290$ nm.



HPLC chromatogram of the photolysis of conjugate **4a** (retention time 7.9 min) with eluent ACN/H₂O (75:25) at a flow rate of 0.8 mL/min, $\lambda_{\text{det}} = 298$ nm.



HPLC chromatogram of the photolysis of conjugate **4b** (retention time 13.4 min) with eluent ACN/H₂O (75:25) at a flow rate of 1.0 mL/min, $\lambda_{\text{det}} = 295$ nm.