

Supporting Information
for
Efficient access to β -vinylporphyrin derivatives
via palladium cross coupling of β -
bromoporphyrins with *N*-tosylhydrazones

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Dedicated to the memory of Professor José Barluenga, Oviedo University, Oviedo, Spain.

Copies of NMR, HRMS(ESI) and UV-vis spectra
of the new derivatives.

Analytical data

Structural characterization of β -alkenyl porphyrin derivatives **3a–c**

^{13}C NMR spectrum of β -alkenyl porphyrin derivative 3a in CDCl_3	S4
COSY spectrum of β -alkenyl porphyrin derivative 3a in CDCl_3	S4
HSQC spectrum of β -alkenyl porphyrin derivative 3a in CDCl_3	S5
HMBC spectrum of β -alkenyl porphyrin derivative 3a in CDCl_3	S5
HR(ESI $^+$) spectrum of β -alkenyl porphyrin derivative 3a	S6
^1H NMR spectrum of β -alkenyl porphyrin derivative 3b in CDCl_3	S6
^{13}C NMR spectrum of β -alkenyl porphyrin derivative 3b in CDCl_3	S7
COSY spectrum of β -alkenyl porphyrin derivative 3b in CDCl_3	S7
HSQC spectrum of β -alkenyl porphyrin derivative 3b in CDCl_3	S8
HMBC spectrum of β -alkenyl porphyrin derivative 3b in CDCl_3	S8
HR(ESI $^+$) spectrum of β -alkenyl porphyrin derivative 3b	S9
^1H NMR spectrum of β -alkenyl porphyrin derivative 3c in CDCl_3	S9

^{13}C NMR spectrum of β -alkenyl porphyrin derivative 3c in CDCl_3	S10
COSY spectrum of β -alkenyl porphyrin derivative 3c in CDCl_3	S10
HSQC spectrum of β -alkenyl porphyrin derivative 3c in CDCl_3	S11
HMBC spectrum of β -alkenyl porphyrin derivative 3c in CDCl_3	S11
HR(ESI^+) spectrum of β -alkenyl porphyrin derivative 3c	S12
Normalized UV–vis spectra of in CH_2Cl_2 of β -alkenyl porphyrin derivatives 3a–c	S12

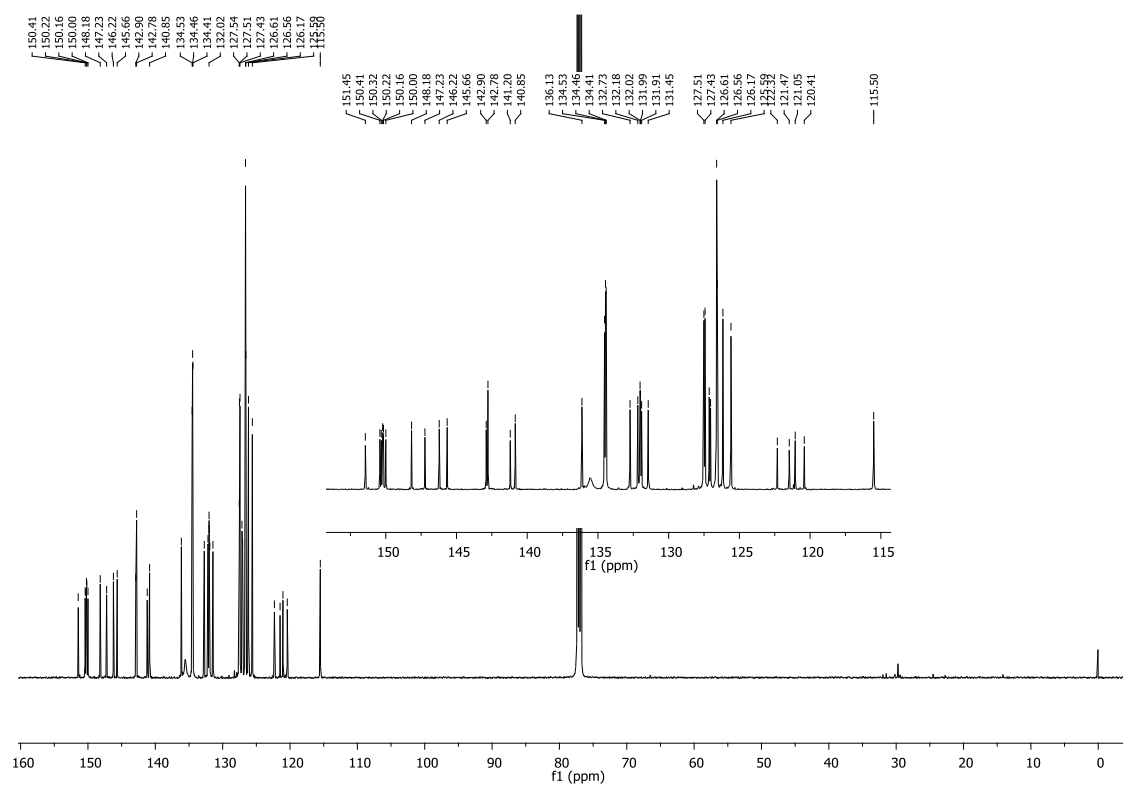


Figure S1 - ^{13}C NMR spectrum of β -alkenyl porphyrin derivative **3a** in CDCl_3

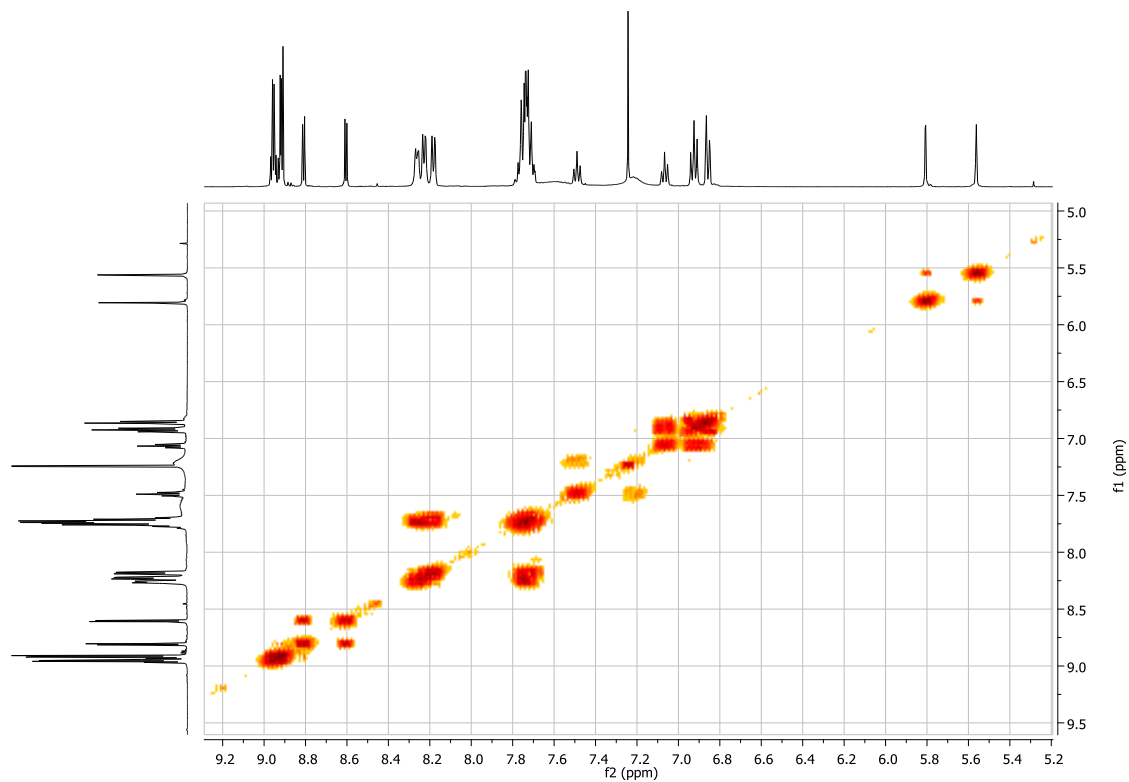


Figure S2 - COSY spectrum of β -alkenyl porphyrin derivative **3a** in CDCl_3

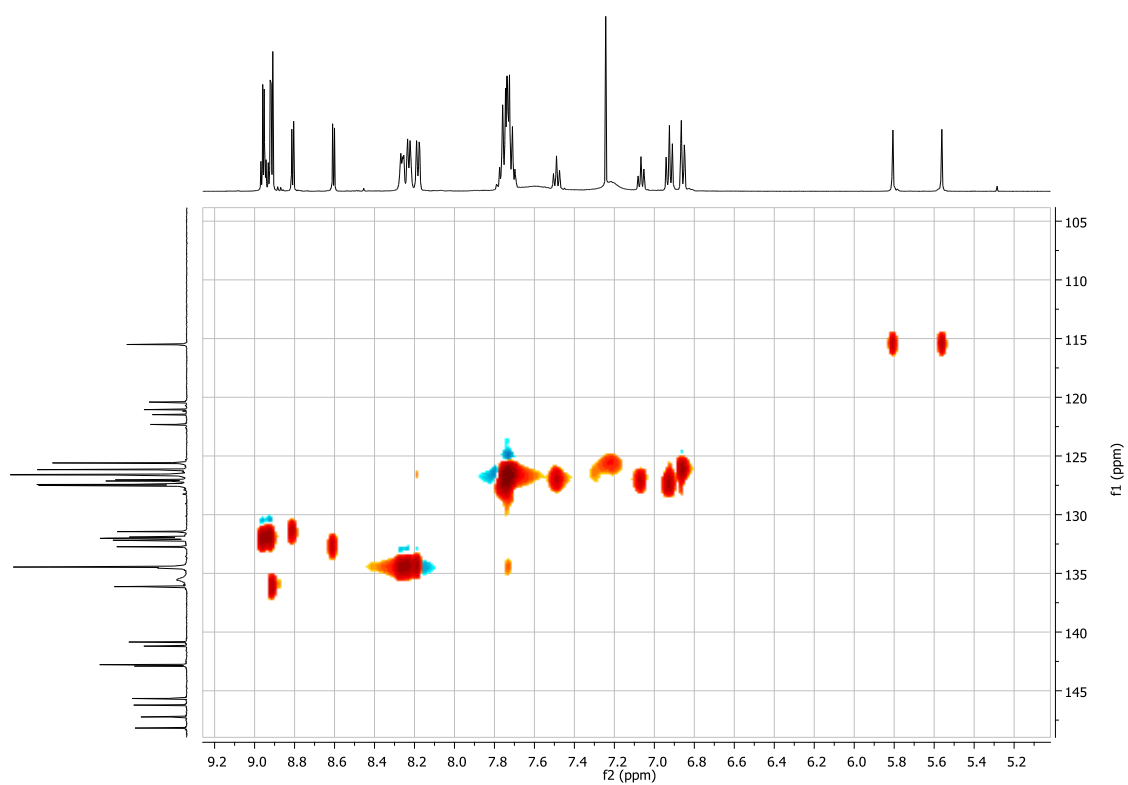


Figure S3 - HSQC spectrum of β -alkenyl porphyrin derivative **3a** in CDCl_3

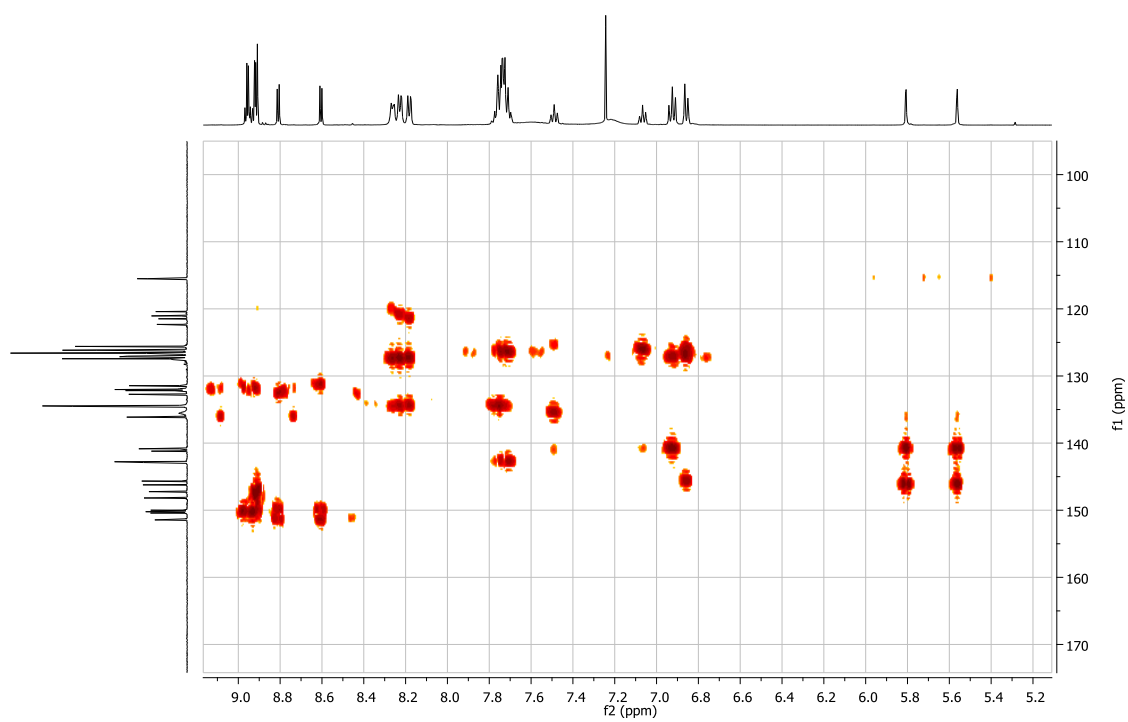


Figure S4 - HMBC spectrum of β -alkenyl porphyrin derivative **3a** in CDCl_3

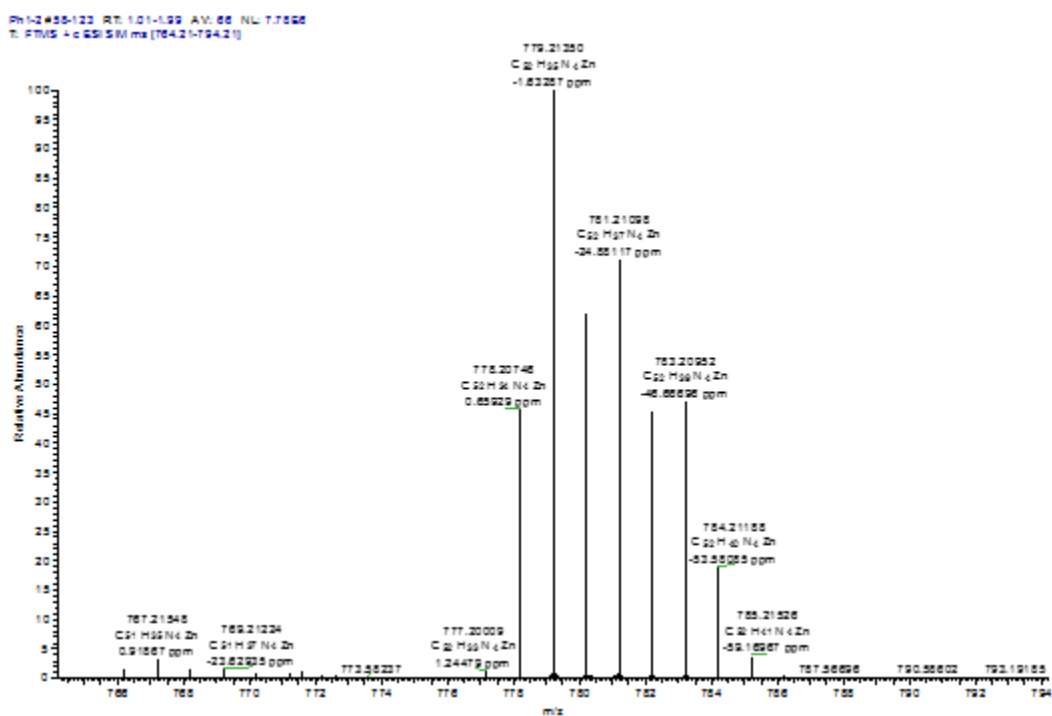


Figure S5 - HR(ESI⁺) spectrum of β -alkenyl porphyrin derivative **3a**

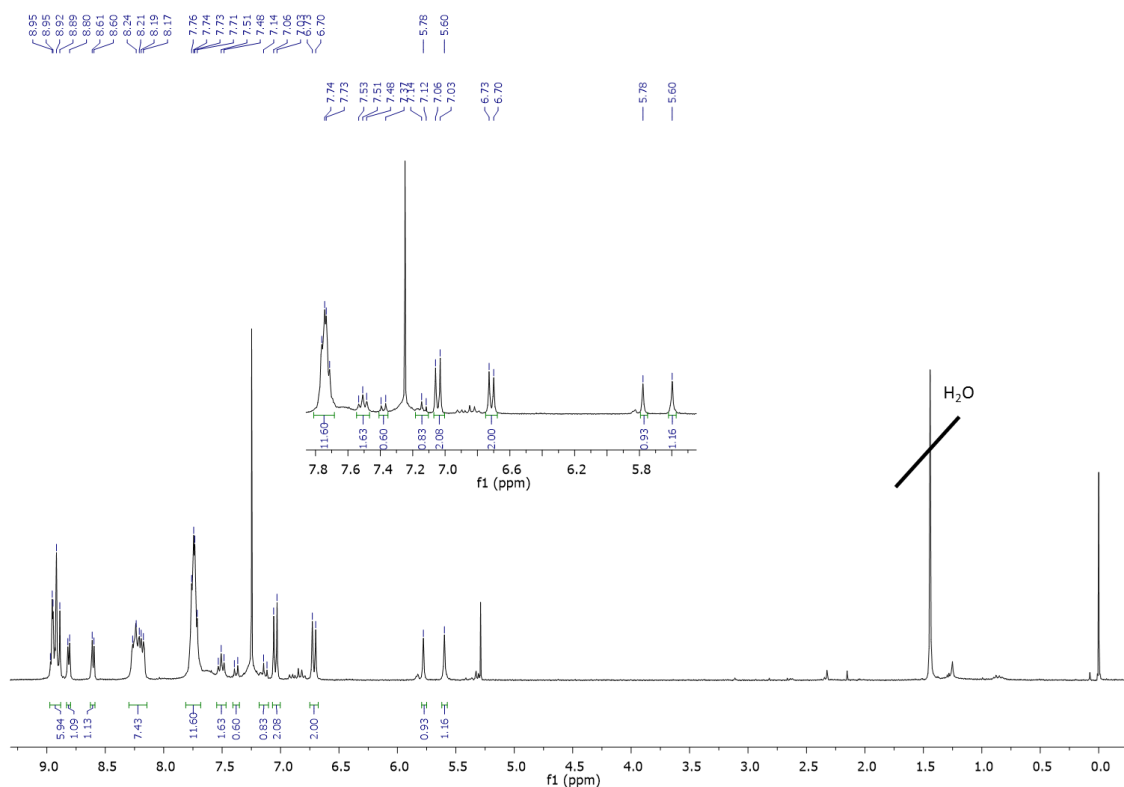


Figure S6 - ¹H NMR spectrum of β -alkenyl porphyrin derivative **3b** in CDCl₃

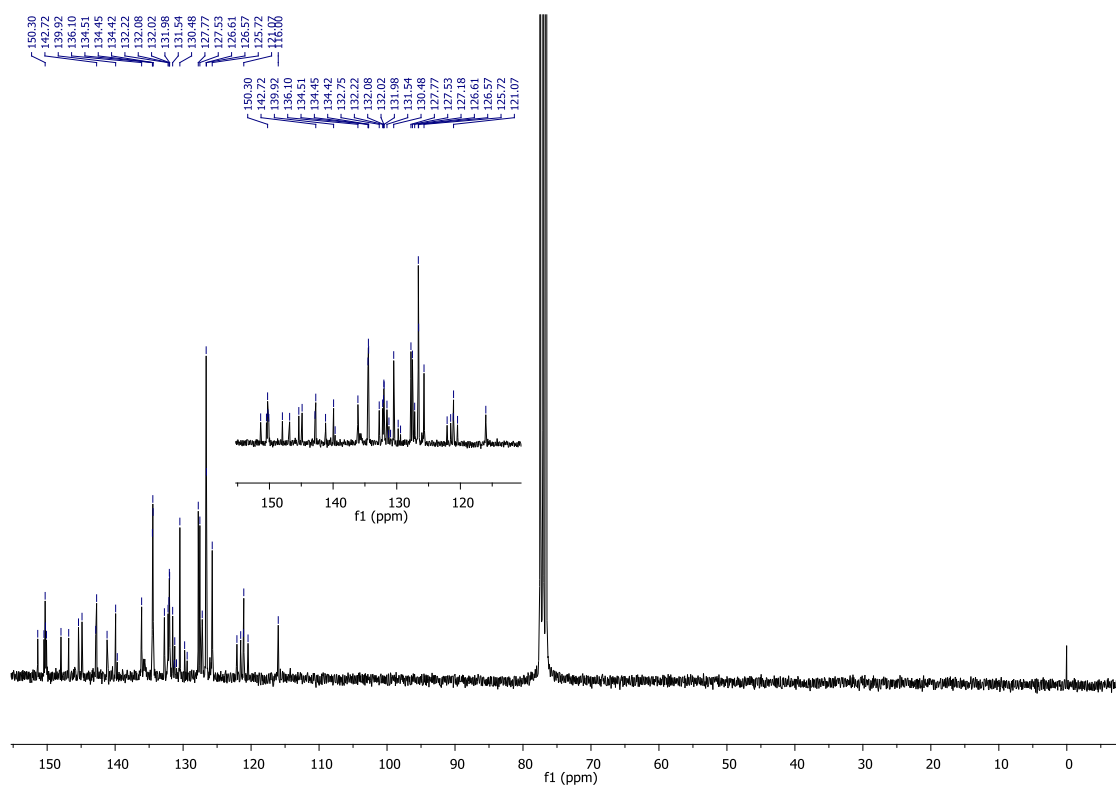


Figure S7 - ^{13}C NMR spectrum of β -alkenyl porphyrin derivative **3b** in CDCl_3

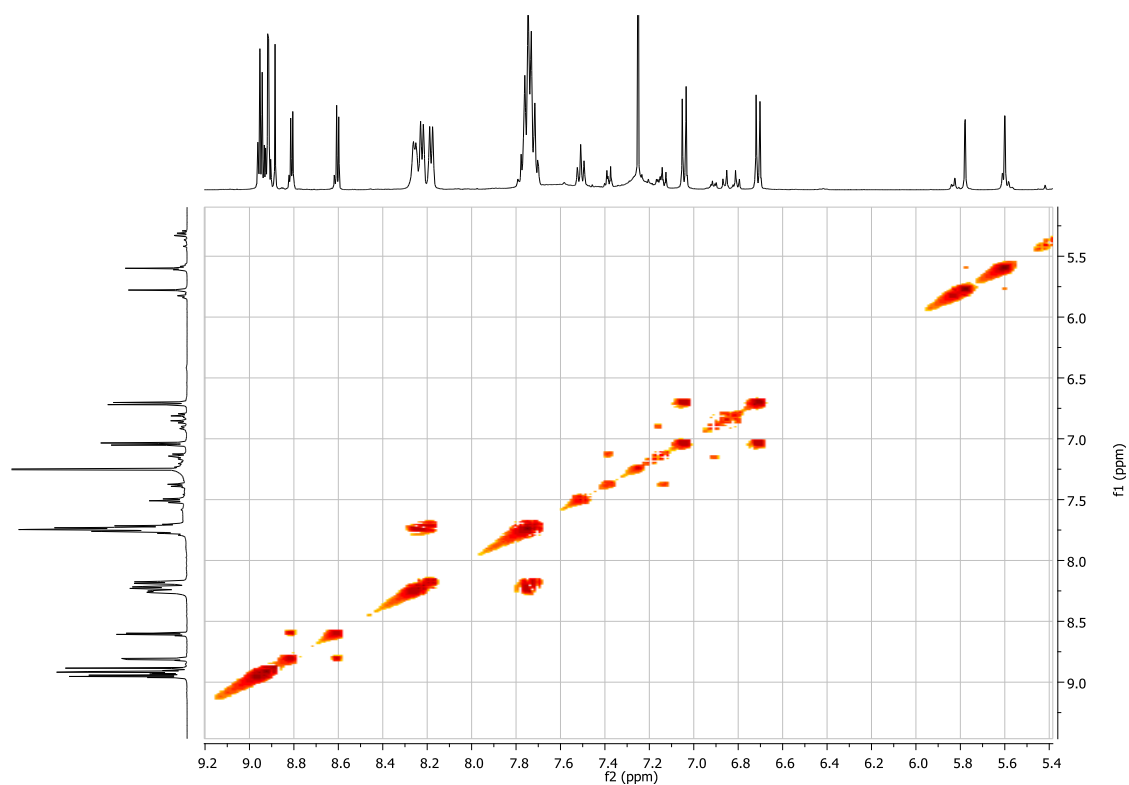


Figure S8 - COSY spectrum of β -alkenyl porphyrin derivative **3b** in CDCl_3

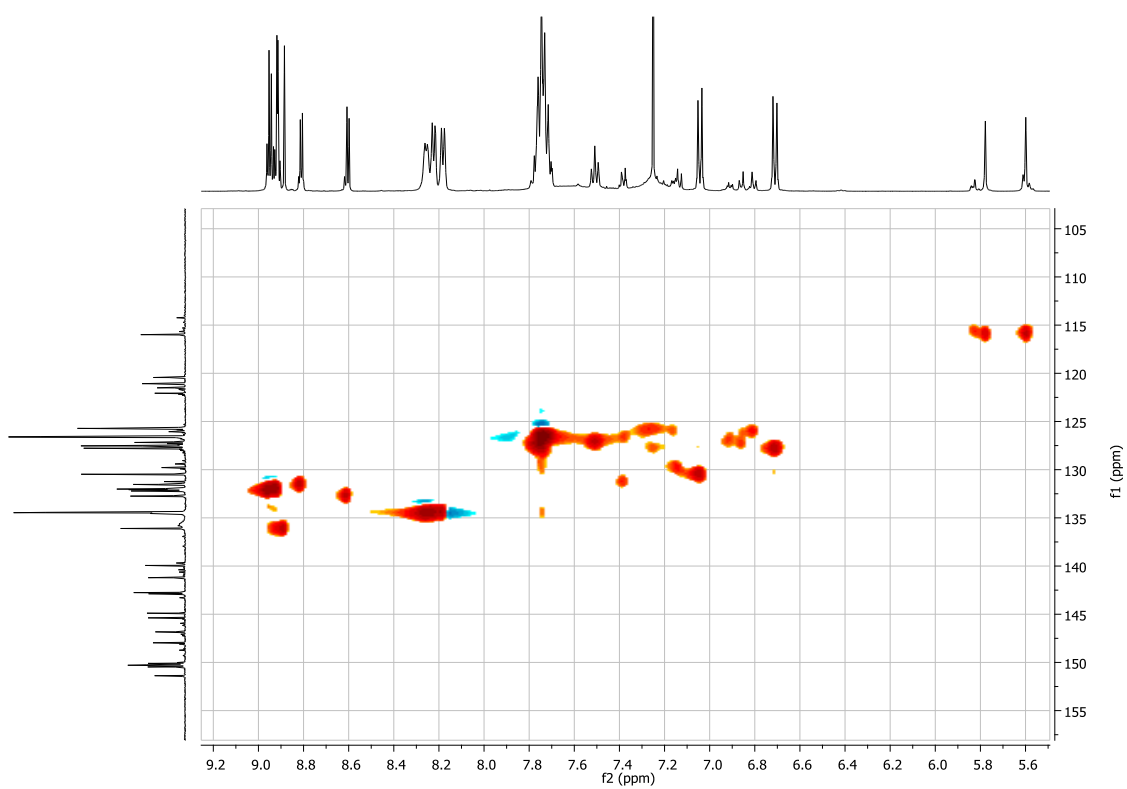


Figure S9- HSQC spectrum of β -alkenyl porphyrin derivative **3b** in CDCl_3

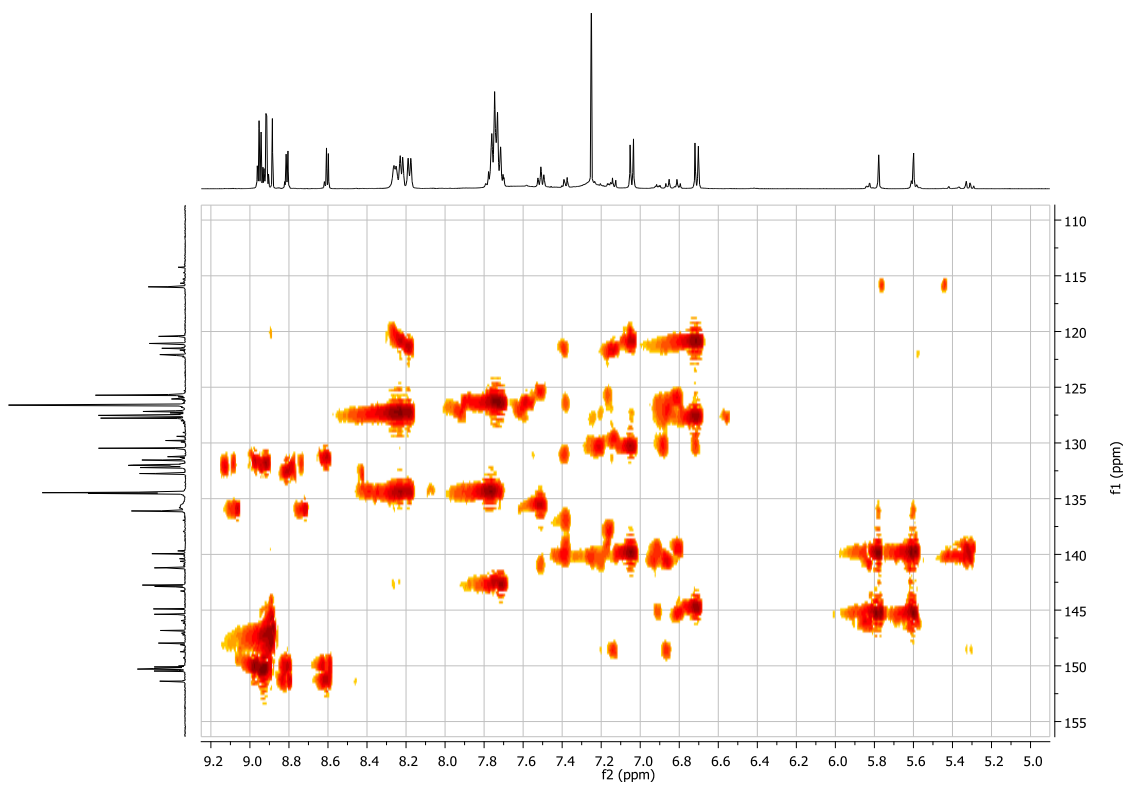


Figure S10- HMBC spectrum of β -alkenyl porphyrin derivative **3b** in CDCl_3

¹H NMR spectrum of compound **1** in CDCl₃. The main spectrum shows peaks from 9.0 to -2.5 ppm. Integration values are provided below the baseline: 4.06, 0.88, 0.93, 6.35, 0.54, 10.04, 1.42, 2.36, 2.03, 3.02, 1.06, and 3.00. An inset shows a zoomed-in view of the aromatic region from 9.0 to 5.5 ppm. A peak at approximately 1.4 ppm is labeled H₂O. The x-axis is labeled f1 (ppm).

S9

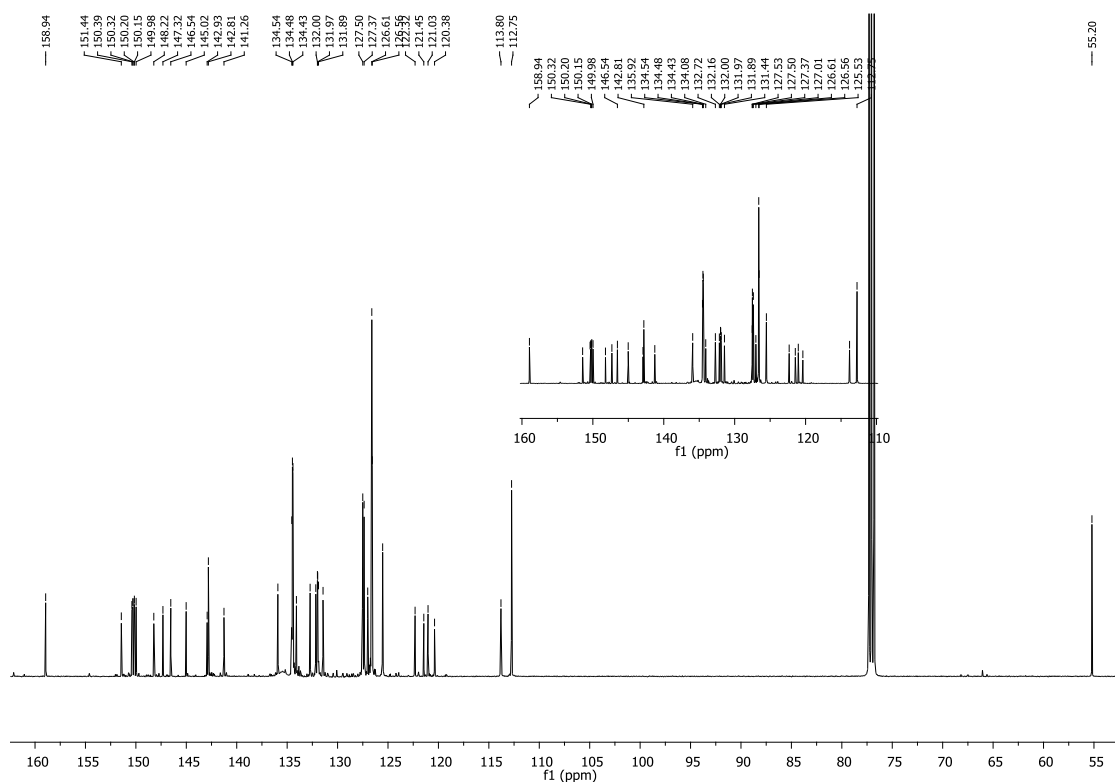


Figure S13 - ^{13}C NMR spectrum of β -alkenyl porphyrin derivative **3c** in CDCl_3

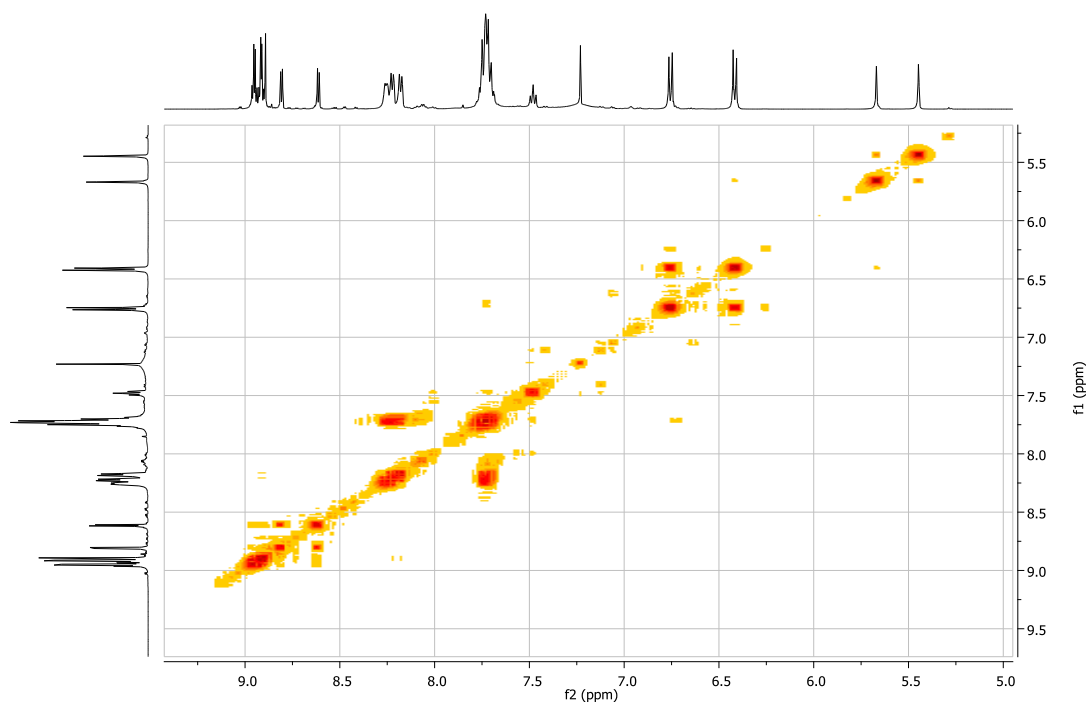


Figure S14 - COSY spectrum of β -alkenyl porphyrin derivative **3c** in CDCl_3

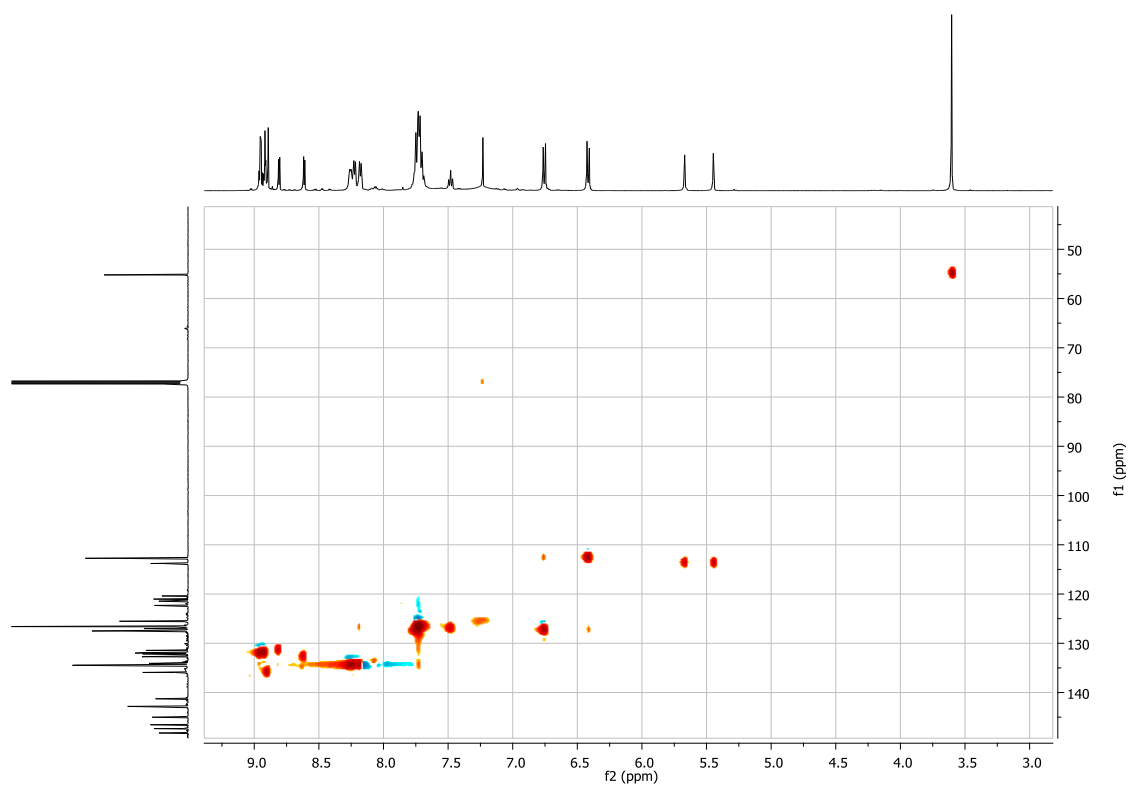


Figure S15 - HSQC spectrum of β -alkenyl porphyrin derivative **3c** in CDCl_3

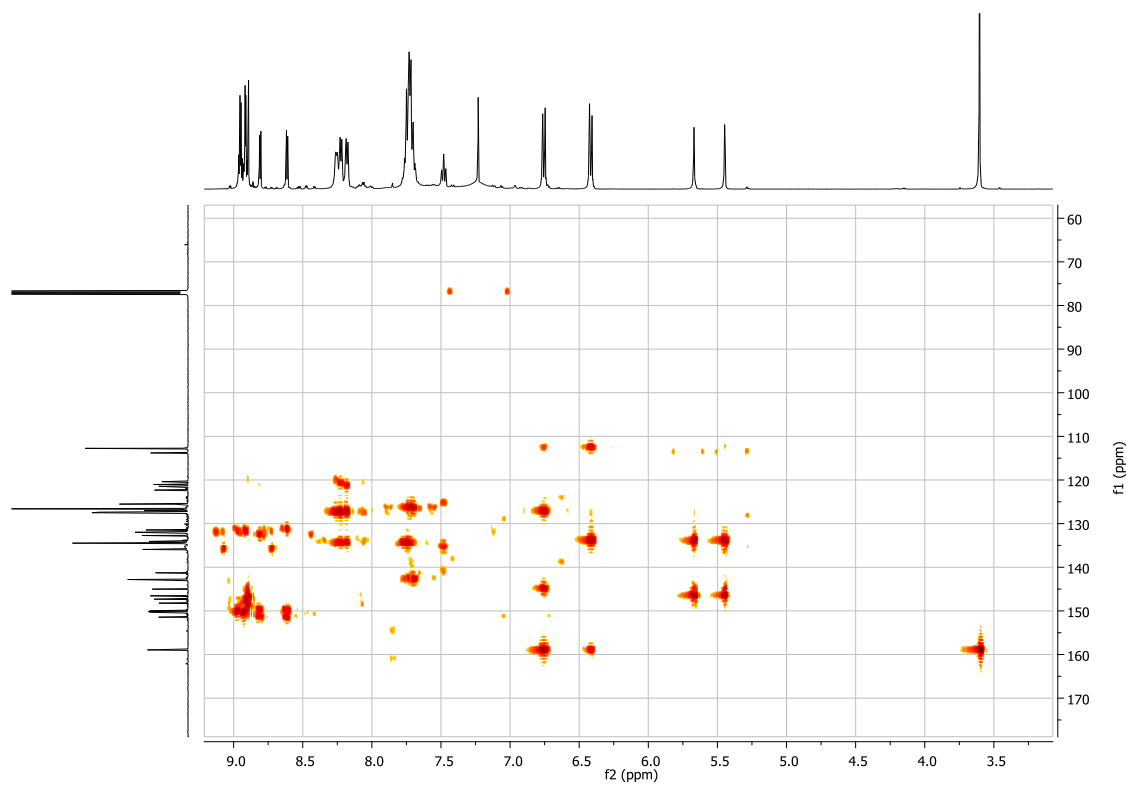


Figure S16 - HMBC spectrum of β -alkenyl porphyrin derivative **3c** in CDCl_3

VRC-21 #43 RT: 1.33 AV: 1 NL: 1.35E5
 F: FTMS + p ESI Full ms [500.00-1000.00]

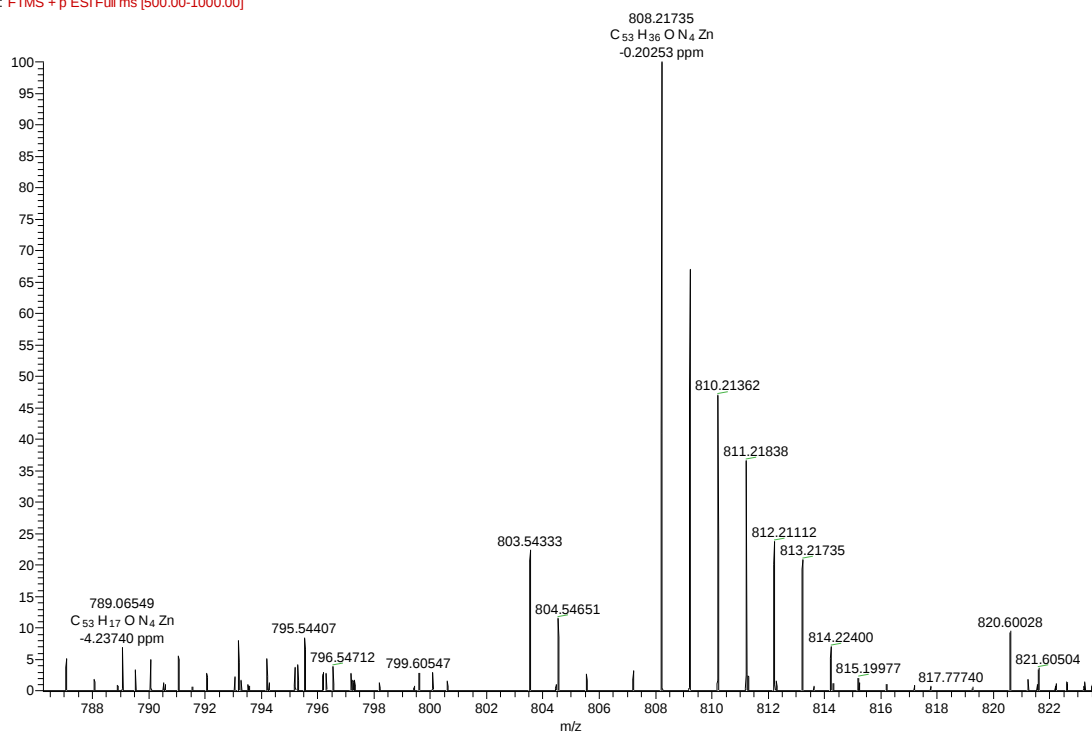


Figure S17 - HR(ESI⁺) spectrum of β -alkenyl porphyrin derivative **3c**

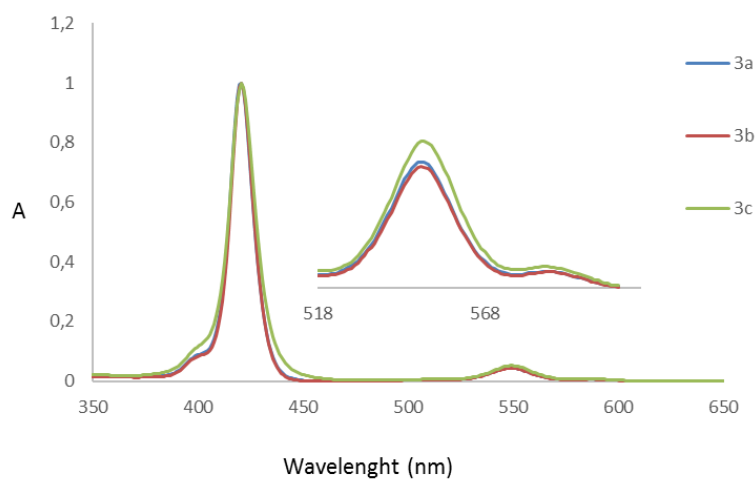


Figure S18 - Normalized UV-vis Spectra of in CH_2Cl_2 of β -alkenyl porphyrin derivatives **3a–c**.