

## SUPPORTING INFORMATION

### 1. Spectral data for compound 3

Fourier transform IR (FT—IR) spectrum was measured in the range 4000 - 650  $\text{cm}^{-1}$  on a Perkin-Elmer FT—IR spectrophotometer Spectrum One. The spectrum shows the characteristic absorption bands of the main functional groups for title compound at IR ( $\nu_{\text{max}}/\text{cm}^{-1}$ ): 3340 (O—H), 3298, 3264 (C—H alkyne), 2955, 2922 (C—H  $\text{sp}^3$ ), 2120 (C $\equiv$ C, terminal alkyne), 1645 (C=O quinone), 1270, 1225, 1045 (C—O).

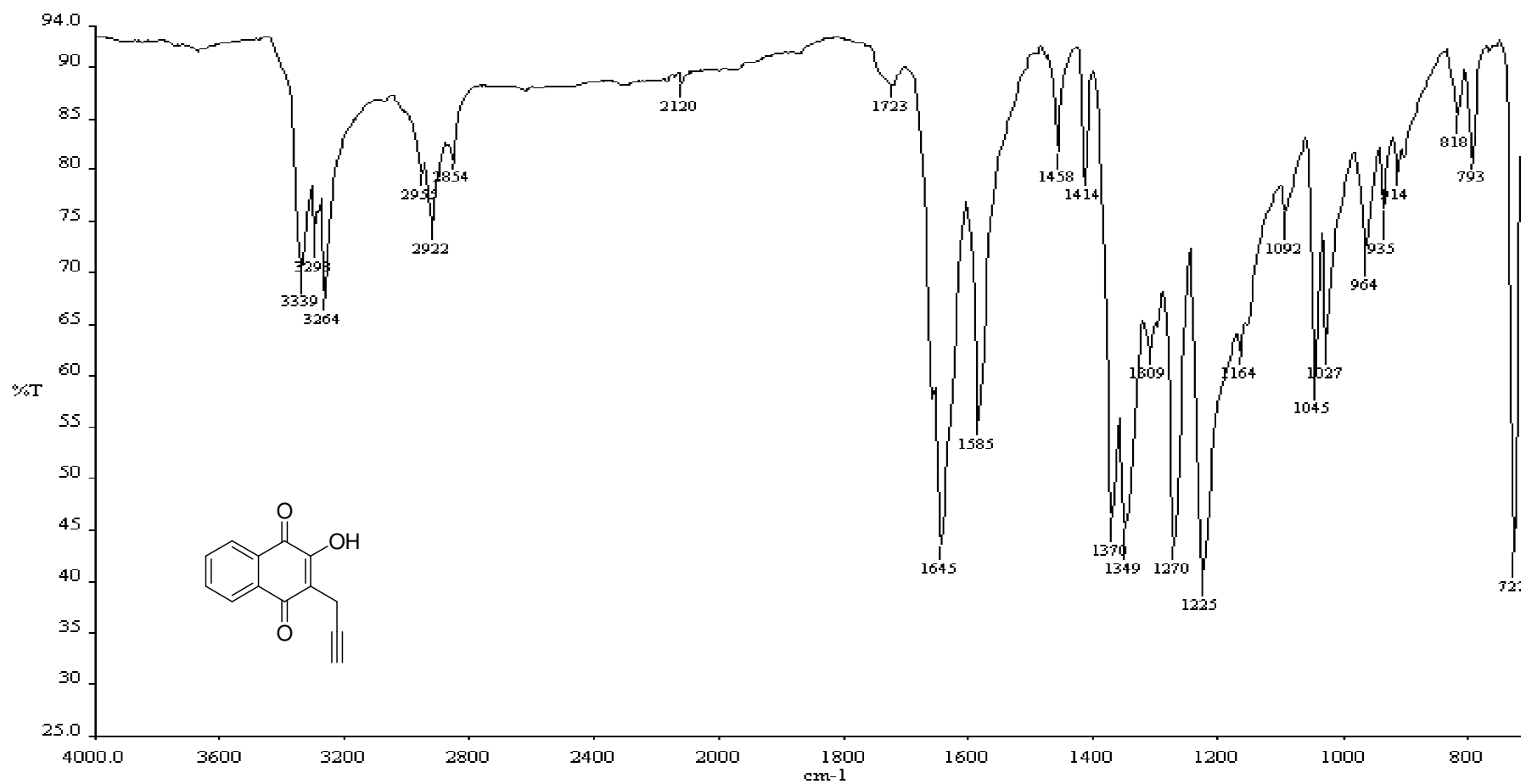
The NMR spectra were obtained in a Bruker Advance DRX 400 NMR spectrometer

$^1\text{H NMR}$  ( $\delta/\text{ppm}$ ,  $J/\text{Hz}$ , 400 MHz,  $\text{CDCl}_3$ ): 8.14 (dd, 1H  $J_{5,6}$  7.6 Hz,  $J_{5,7}$  1.2 Hz, H-5), 8.13 (dd, 1H,  $J_{8,7}$  7.6 Hz,  $J_{8,6}$  1.2 Hz, H-8), 7.76 (td, 1H,  $J_{6,5}$  7.6 Hz,  $J_{6,7}$  7.6 Hz,  $J_{6,8}$  1.2 Hz, H-6), 7.68 (td, 1H,  $J_{7,6}$  7.6 Hz,  $J_{7,8}$  7.6 Hz,  $J_{7,5}$  1.2 Hz, H-7), 7.58 (s, 1H, HO), 3.51 (d, 2H,  $J_{11,13}$  2.8 Hz, H-11), 1.97 (t, 1H,  $J_{13,11}$  2.8 Hz, H-13).

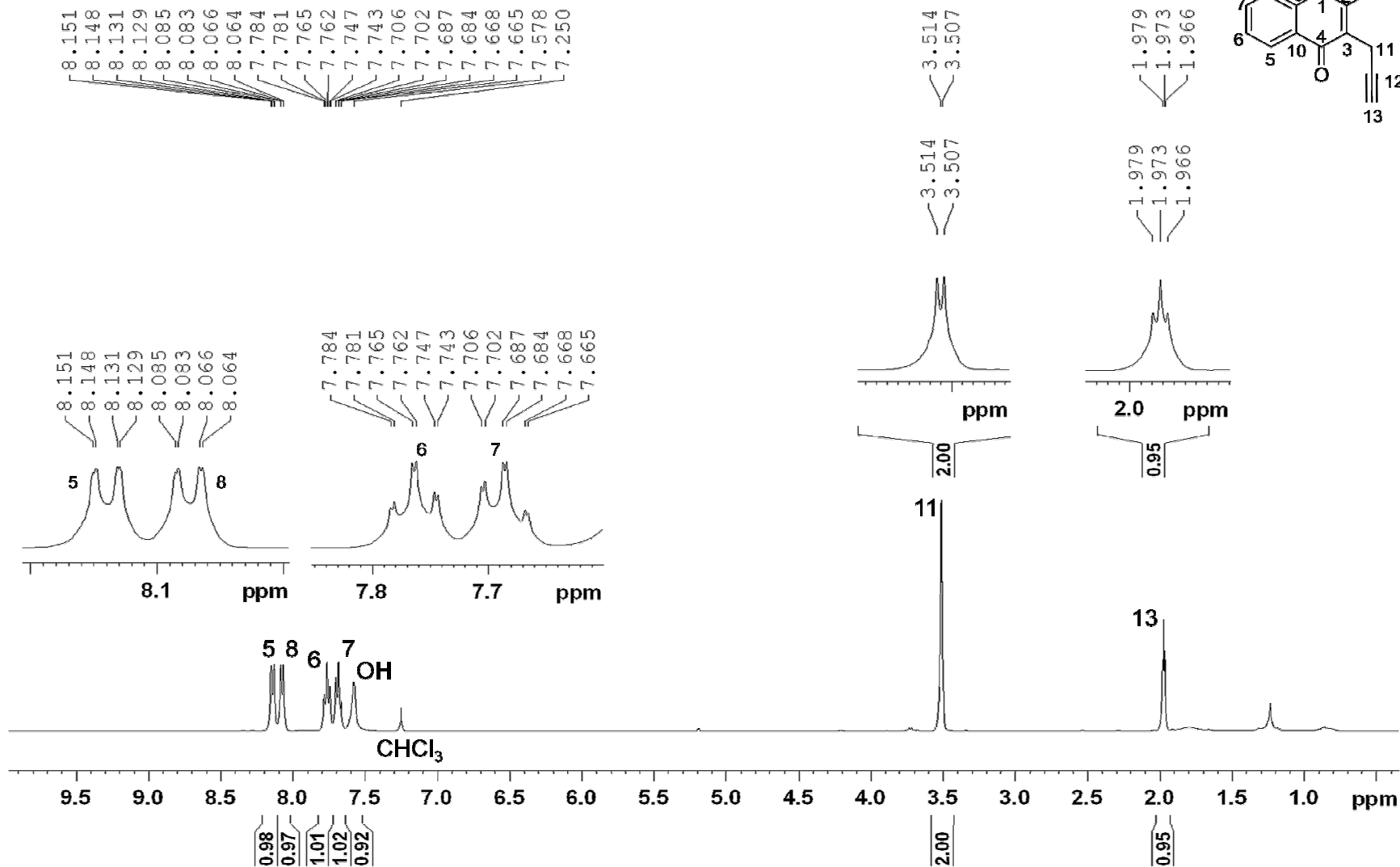
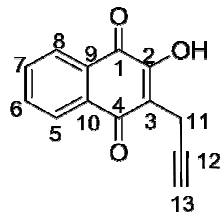
$^{13}\text{C NMR}$  ( $\delta/\text{ppm}$ , 100 MHz,  $\text{CDCl}_3$ ): 183.4 (C-4), 181.5 (C-1), 153.5 (C-3), 135.4 (C-6), 133.4 (C-7), 132.9 (C-10), 129.5 (C-9), 127.2 (C-5), 126.6 (C-8), 118.5 (C-2), 80.2 (C-12), 68.5 (C-13), 13.0 (C-11)

## 2. Spectra of compound 3

# Infrared spectrum (FT-IR) of 3 in the range 4000-650 $\text{cm}^{-1}$



<sup>1</sup>H NMR spectrum (CDCl<sub>3</sub>, 400 MHz) of 3



<sup>13</sup>C NMR spectrum (CDCl<sub>3</sub>, 100 MHz) of 3

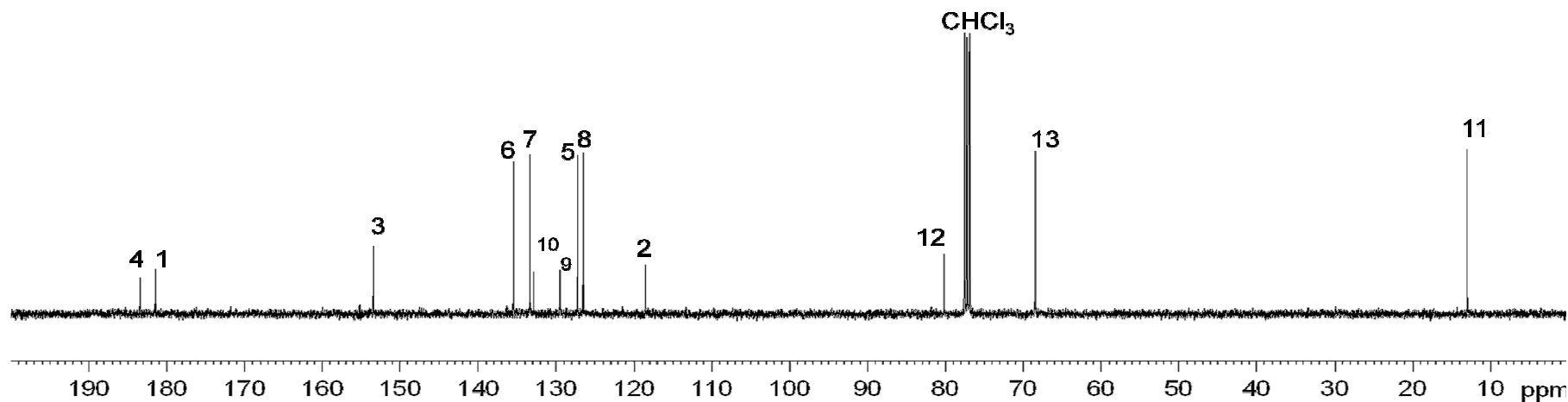
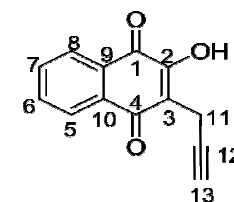
183.44  
181.49

153.48

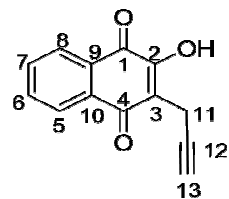
135.43  
133.36  
132.89  
129.48  
127.23  
126.55  
118.49

80.18  
77.54  
77.23  
76.91  
68.45

12.98



DEPT sub-spectrum (CDCl<sub>3</sub>, 100 MHz) of 3

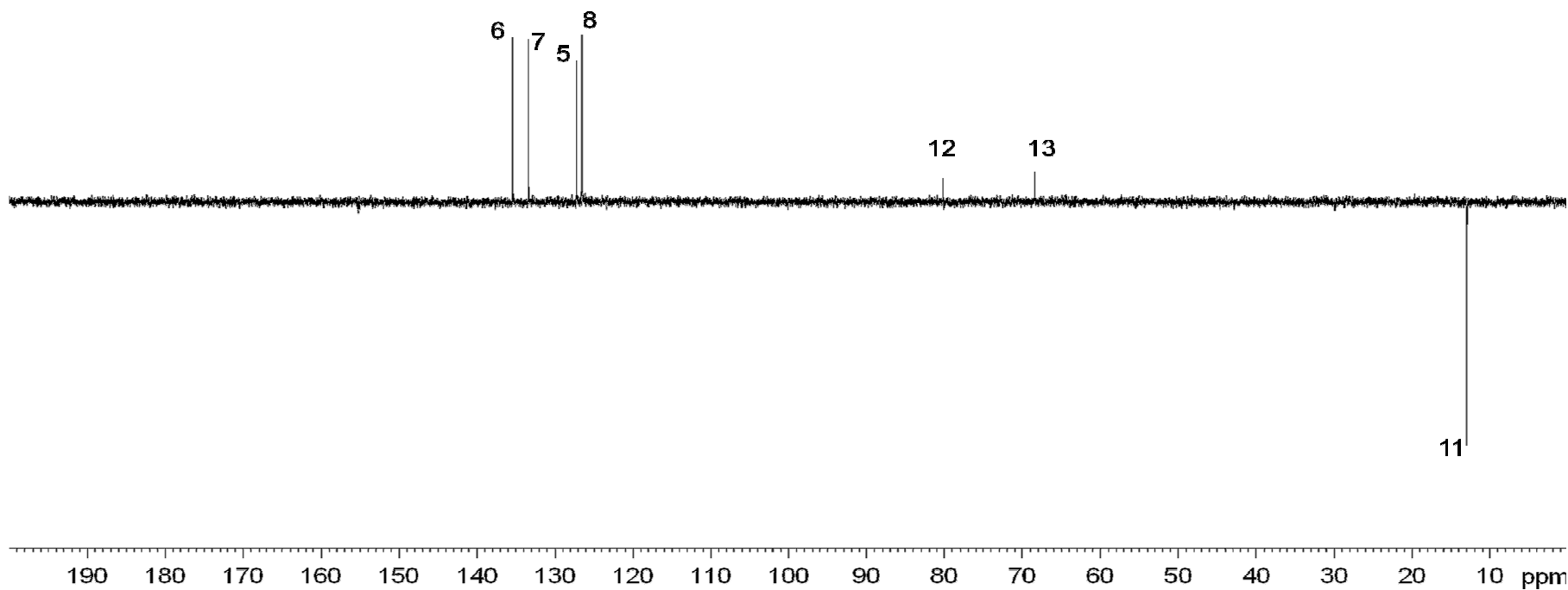


135.43  
133.36  
127.23  
126.54

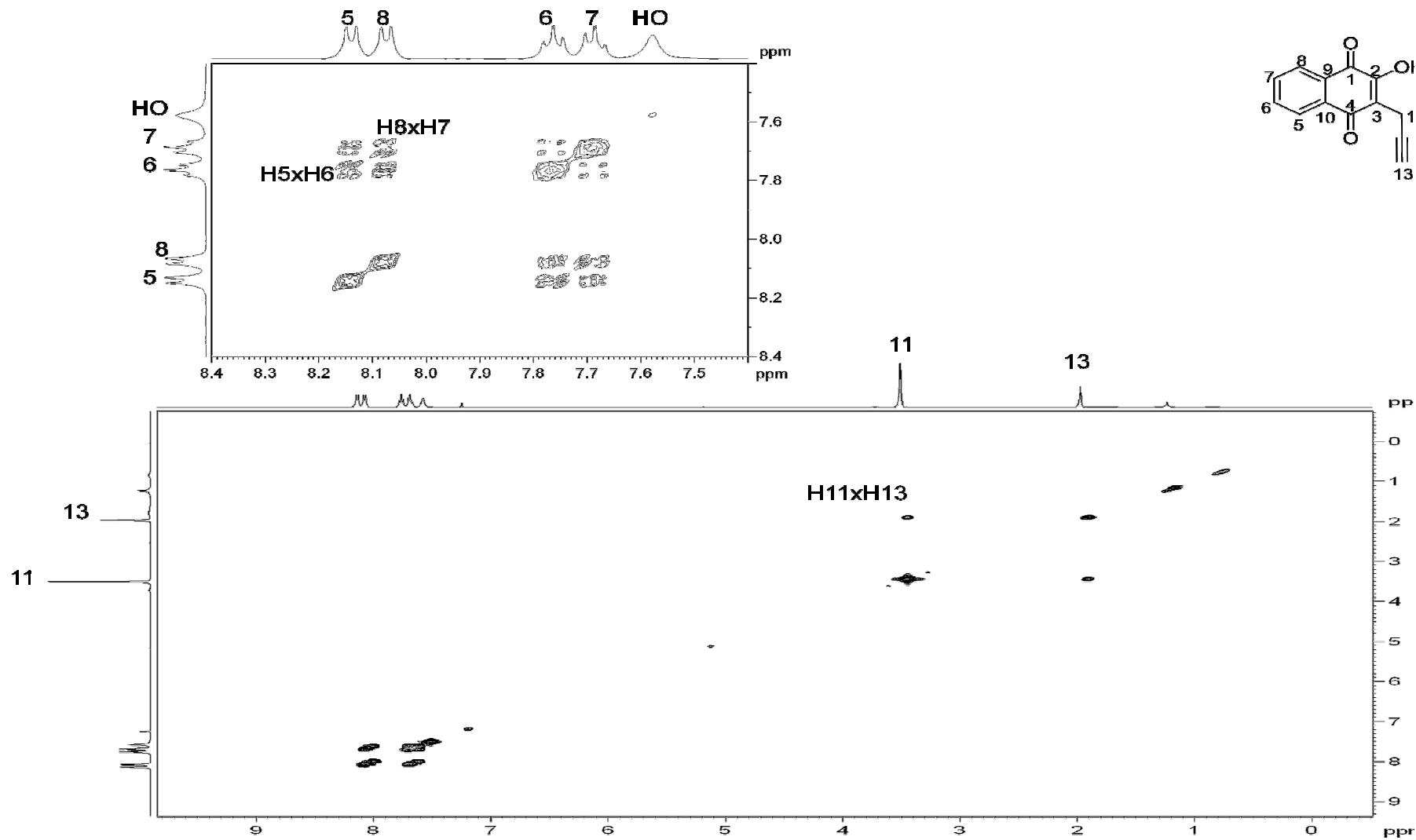
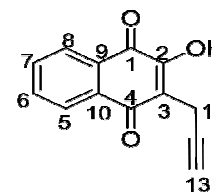
80.17

68.45

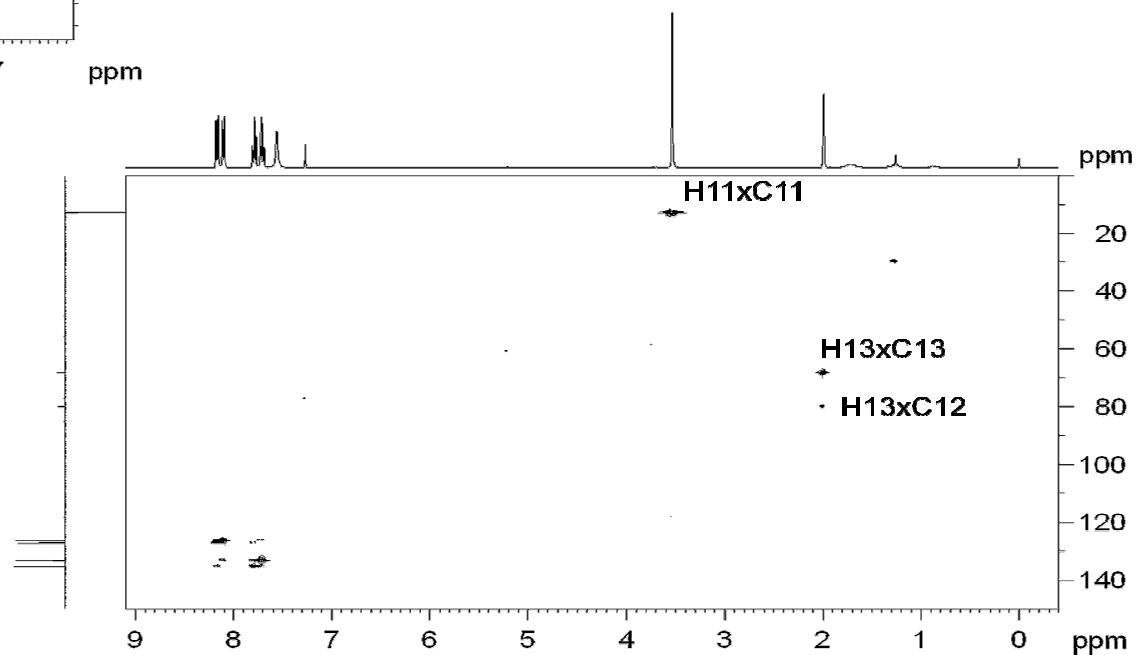
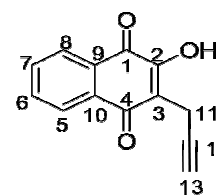
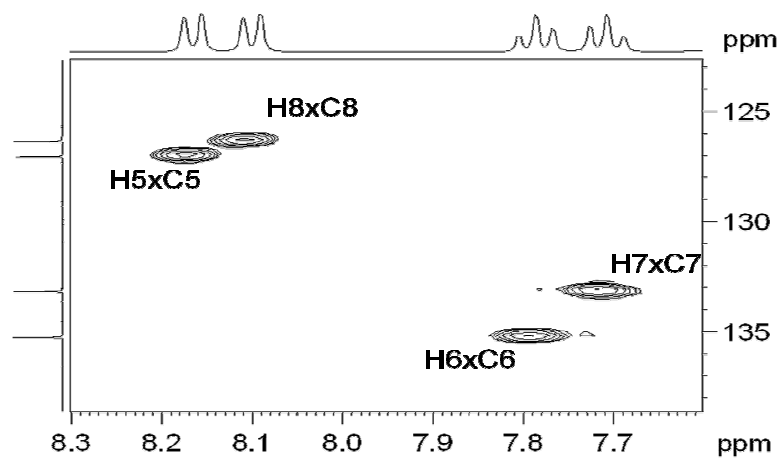
12.98



Cosy spectrum (CDCl<sub>3</sub>, 400 MHz) of 3



# HSQC spectrum (CDCl<sub>3</sub>) of 3





# HMBC of 3

