

## Supplementary materials

### **Anticancer activity of the acetylenic derivative of betulin phosphate involves induction of necrotic-like death in breast cancer cells *in vitro***

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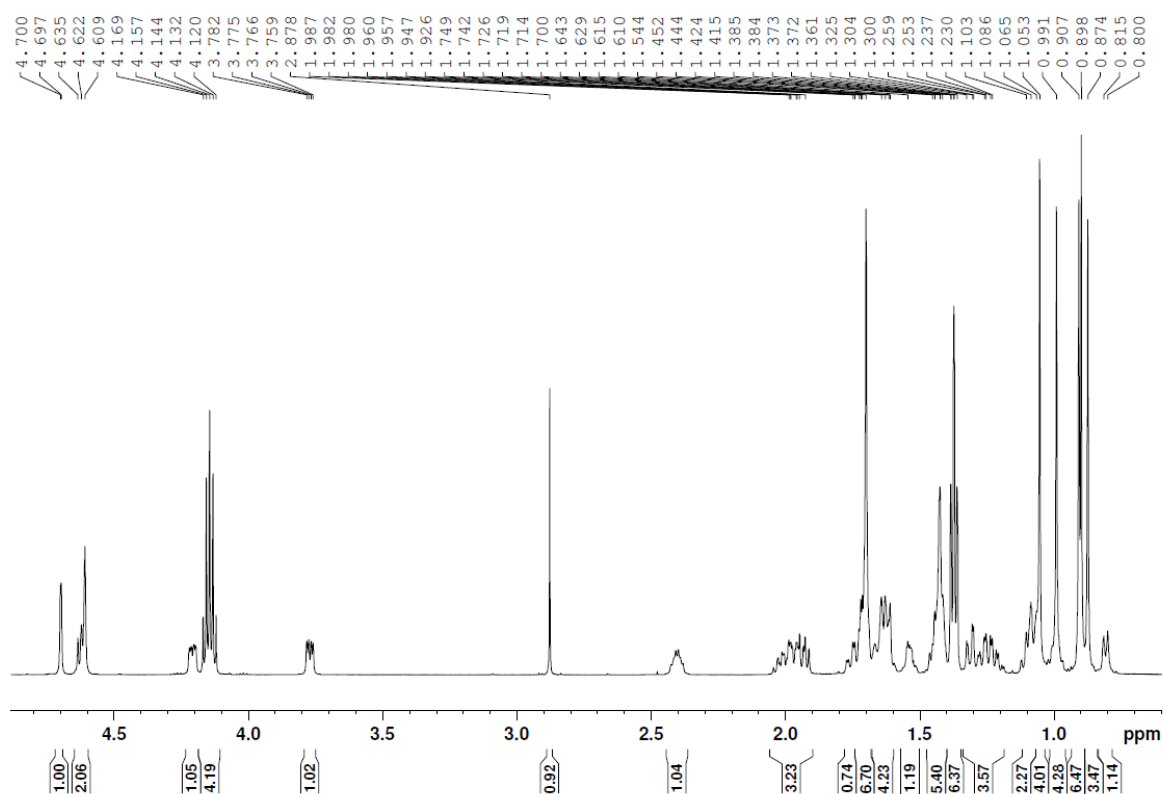
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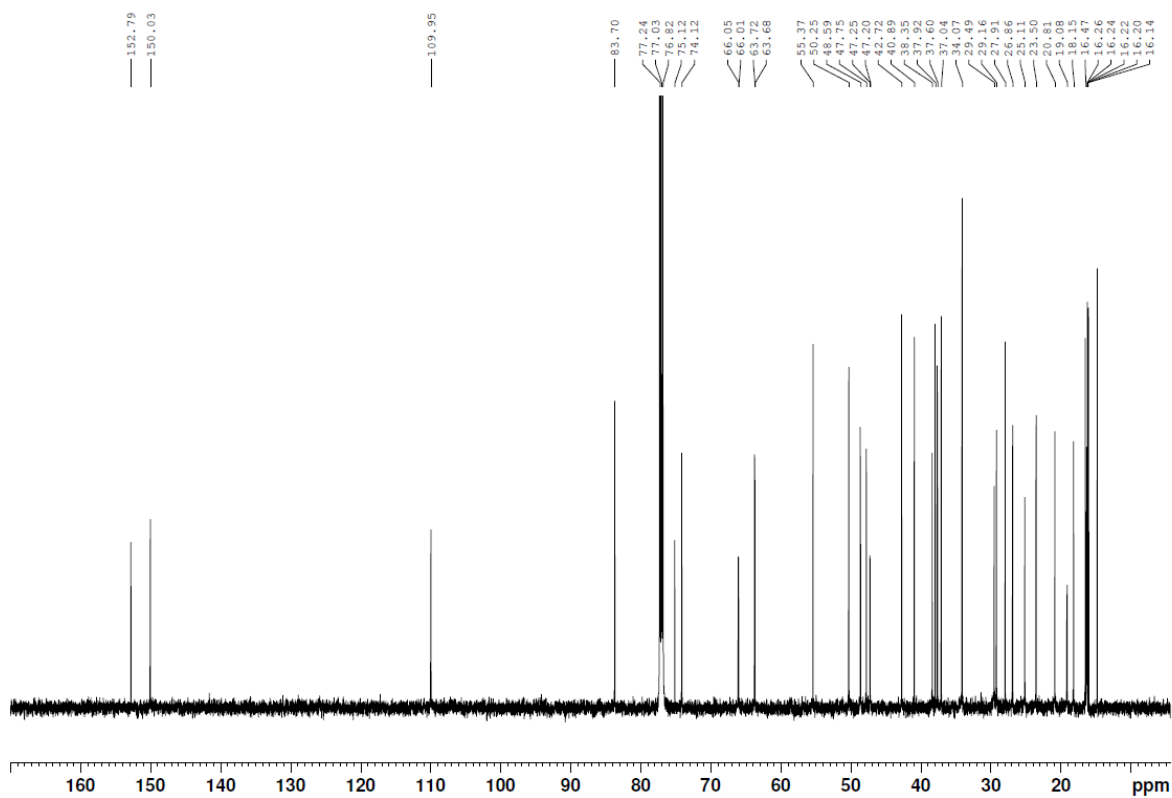
Nuclear Magnetic Resonance spectra for compound **5** (**Fig. S1-S3**)

<b>Fig. S1.</b> $^1\text{H}$ NMR (600 MHz, $\text{CDCl}_3$ ).....	<b>3</b>
<b>Fig. S2.</b> $^{13}\text{C}$ NMR (243 MHz, $\text{CDCl}_3$ ).....	<b>3</b>
<b>Fig. S3.</b> $^{31}\text{P}$ NMR, (150 MHz, $\text{CDCl}_3$ ).....	<b>4</b>
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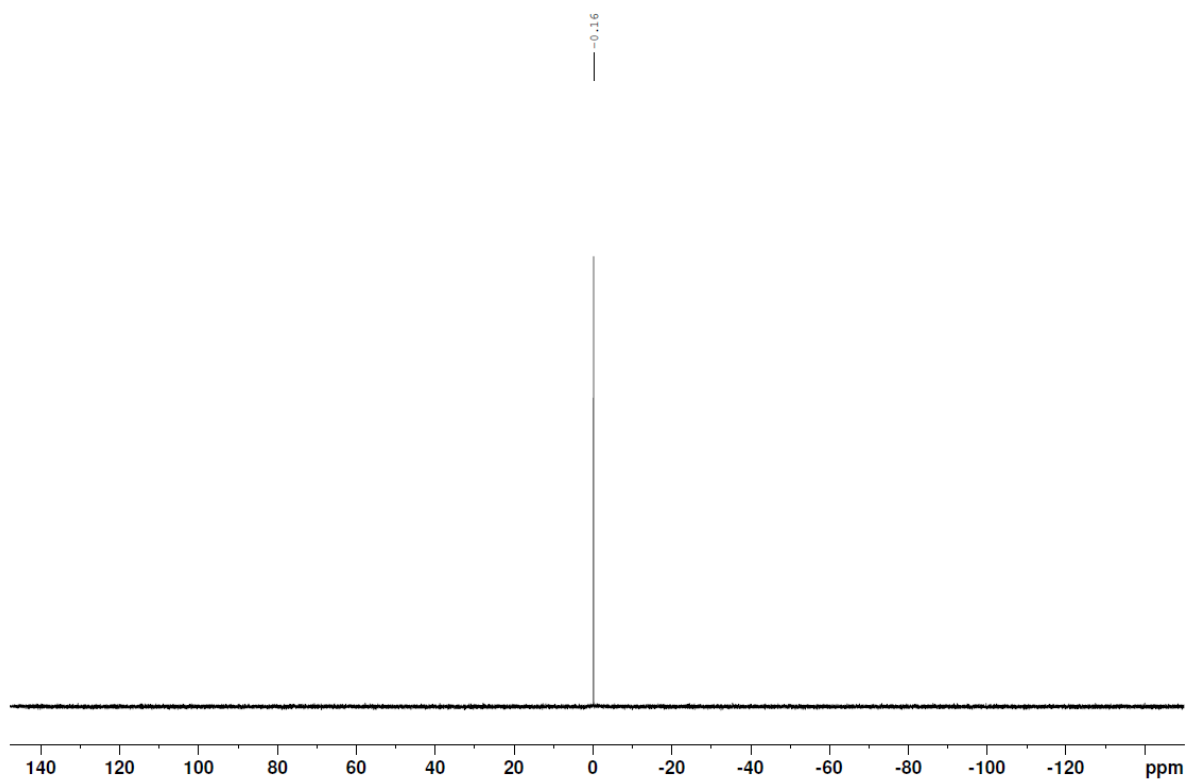
**Fig. S1.**  $^1\text{H}$  NMR (600 MHz,  $\text{CDCl}_3$ )



**Fig. S2.**  $^{13}\text{C}$  NMR (243 MHz,  $\text{CDCl}_3$ )



**Fig. S3.**  $^{31}\text{P}$  NMR, (150 MHz,  $\text{CDCl}_3$ )



**Fig. S4.** IR spectrum for compound **5** (KBr pellet)

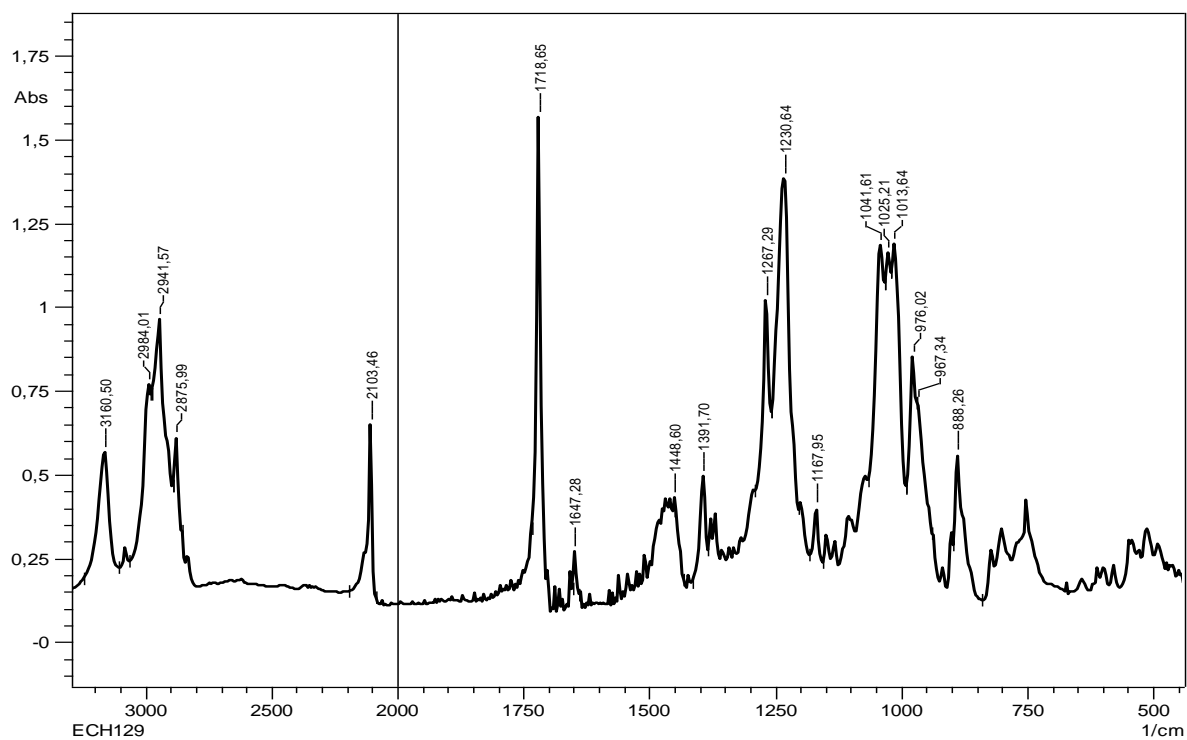


Fig. S5. HR MS, compound 5

