

*Electronic Supplementary Information*

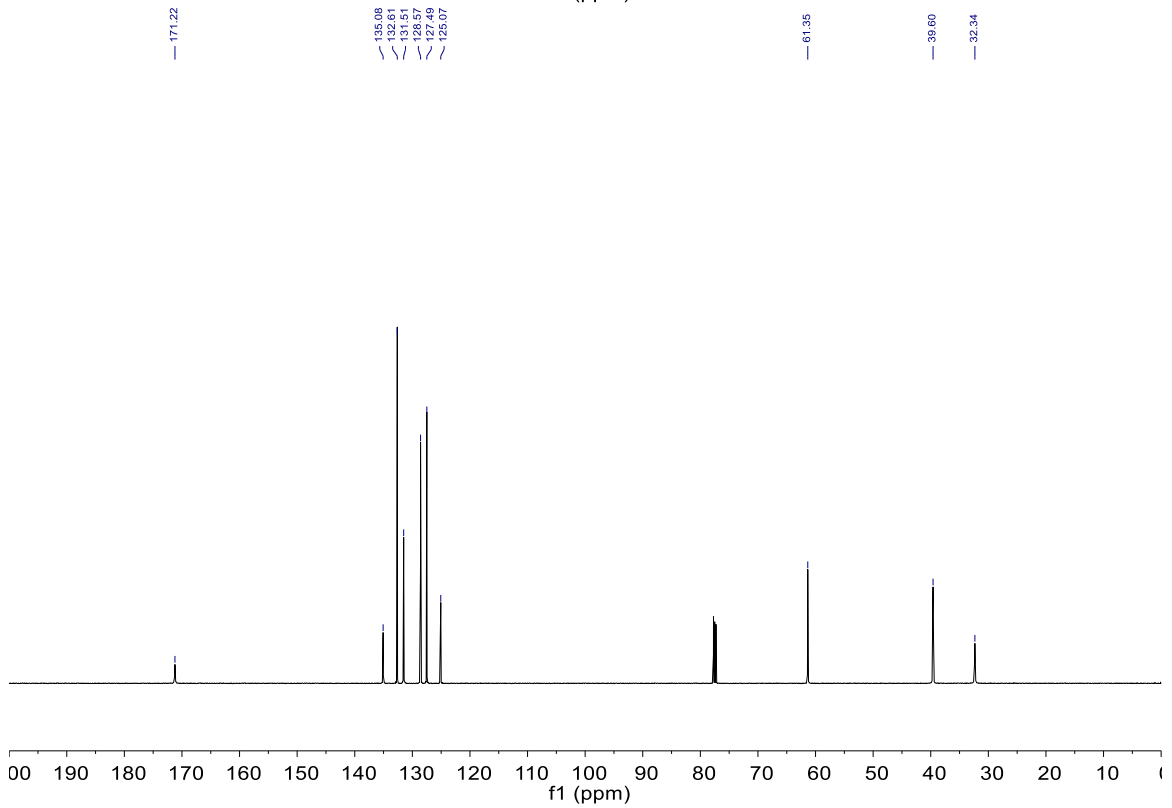
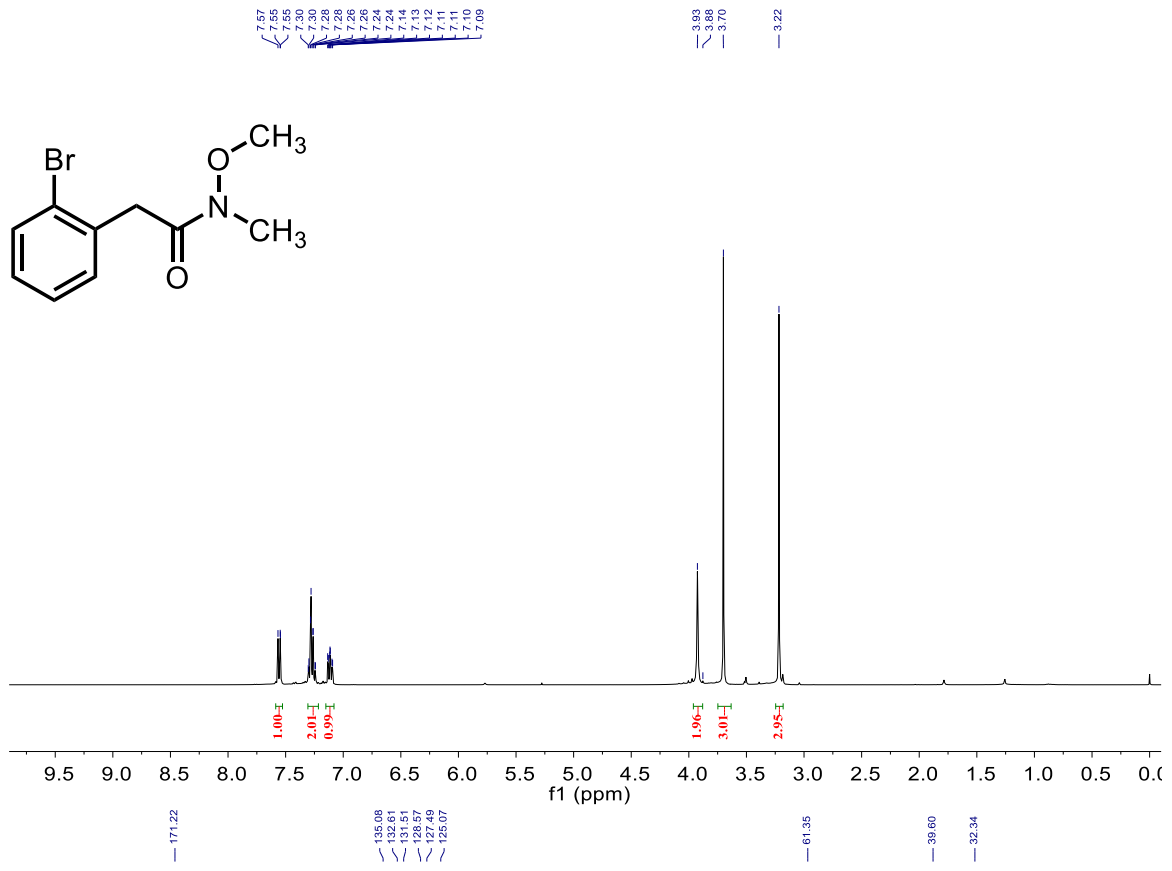
**Silyl-naphthalene endoperoxides as switchable sources of singlet oxygen for bactericidal activity**

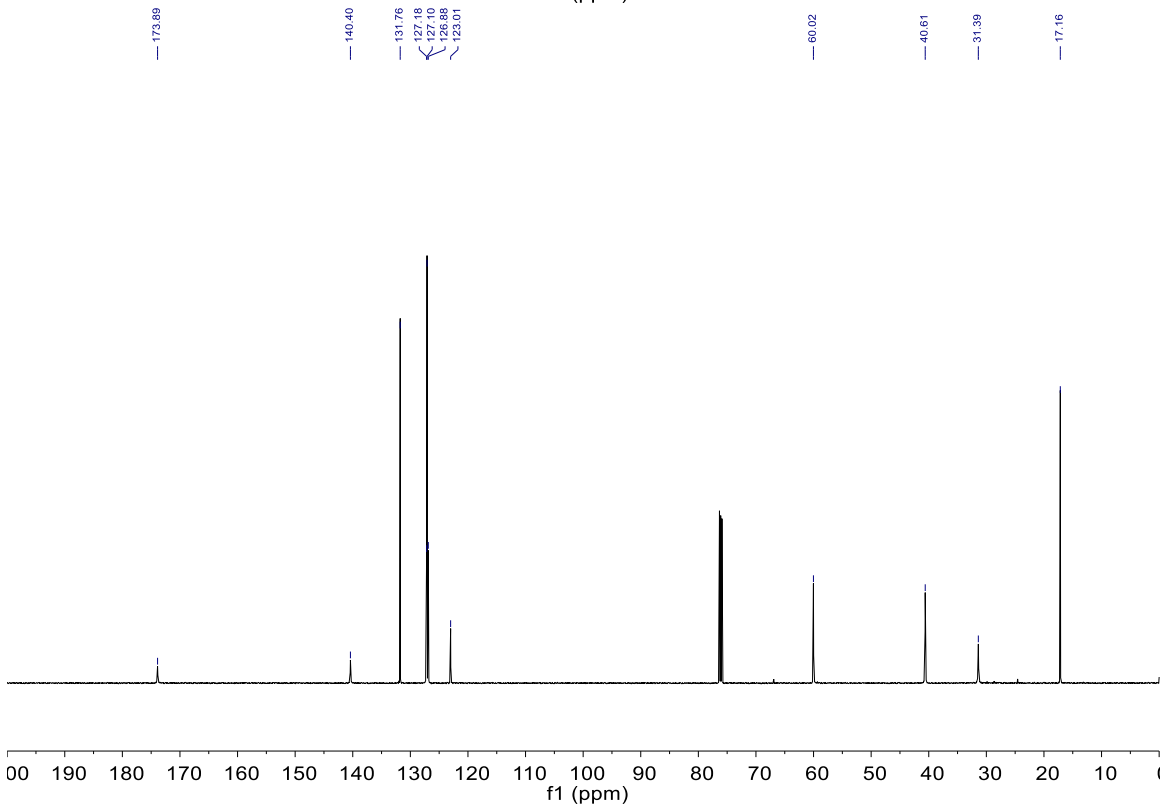
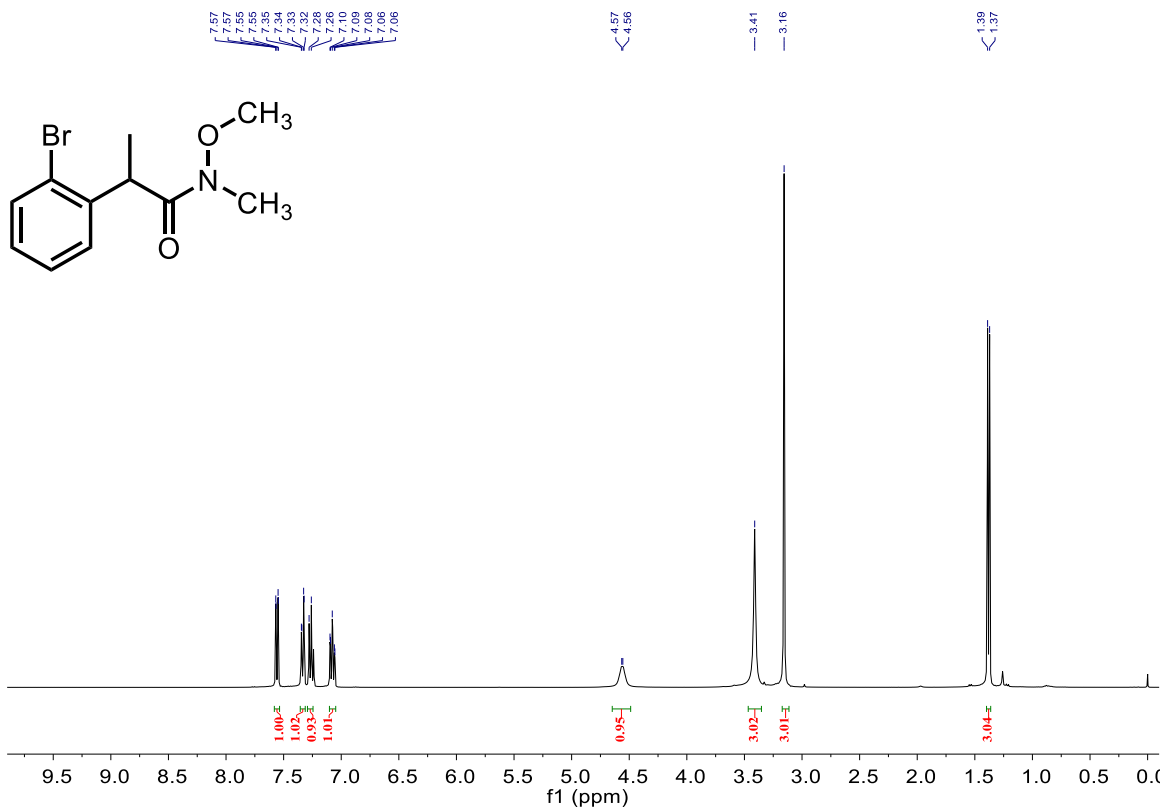
Min Qu, Nan Wu, Wanqing Jiang, Lei Wang,\* Mahinur S. Akkaya\* and Engin U. Akkaya\*

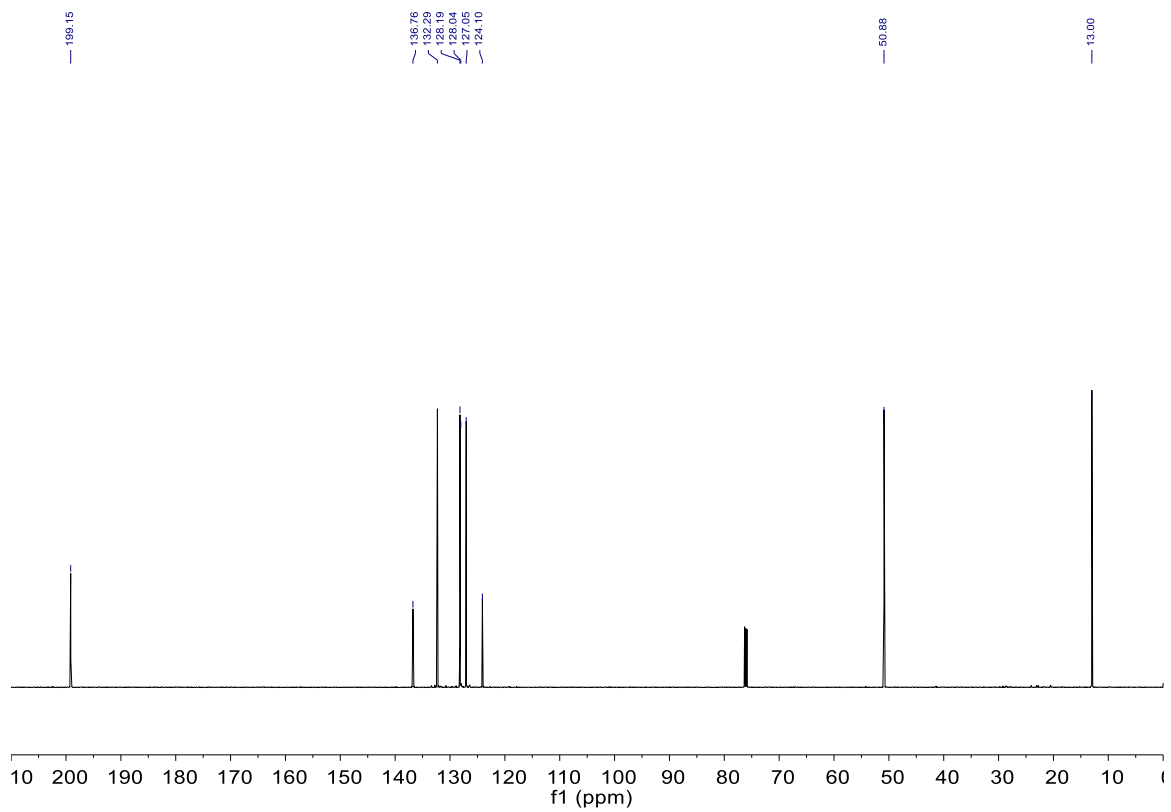
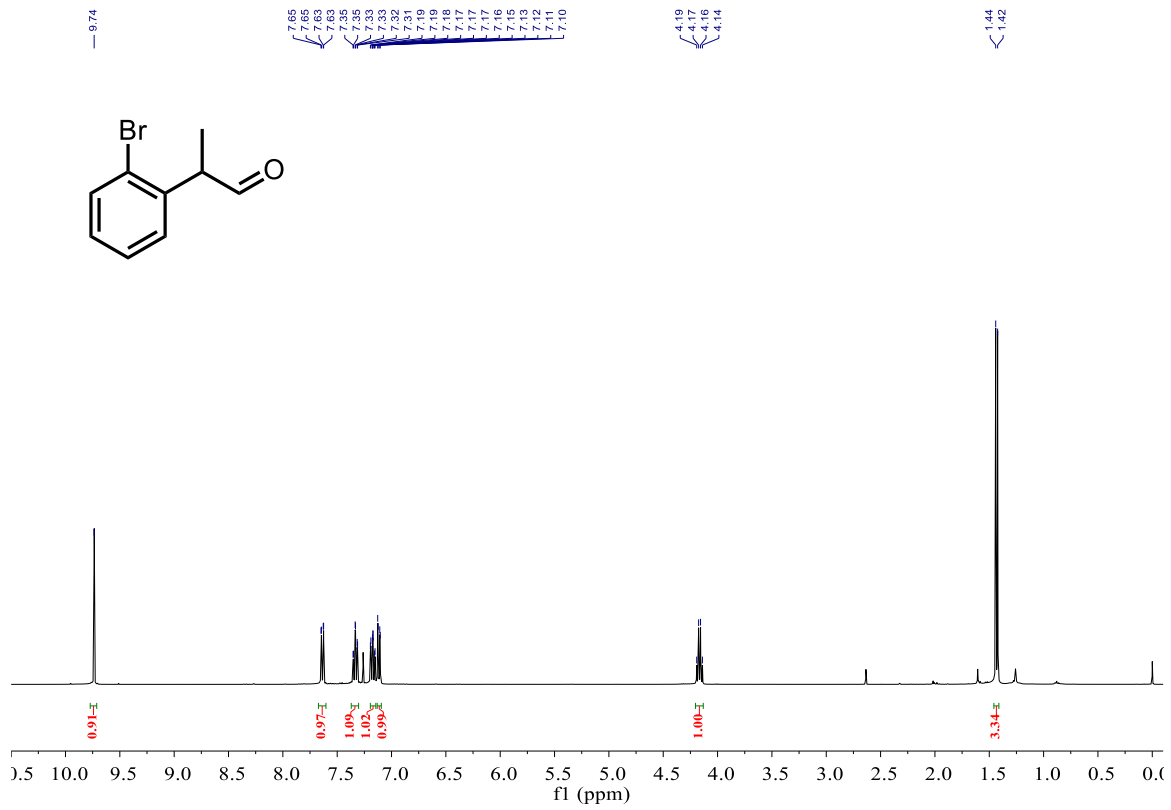
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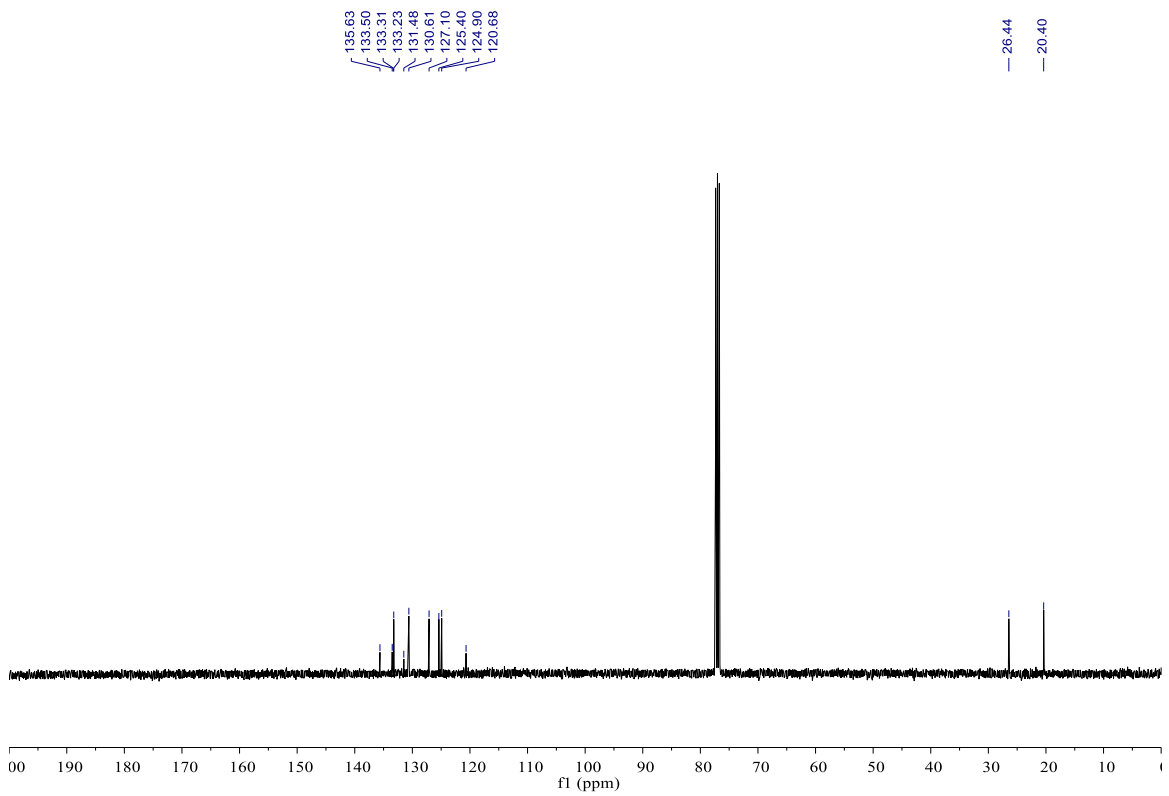
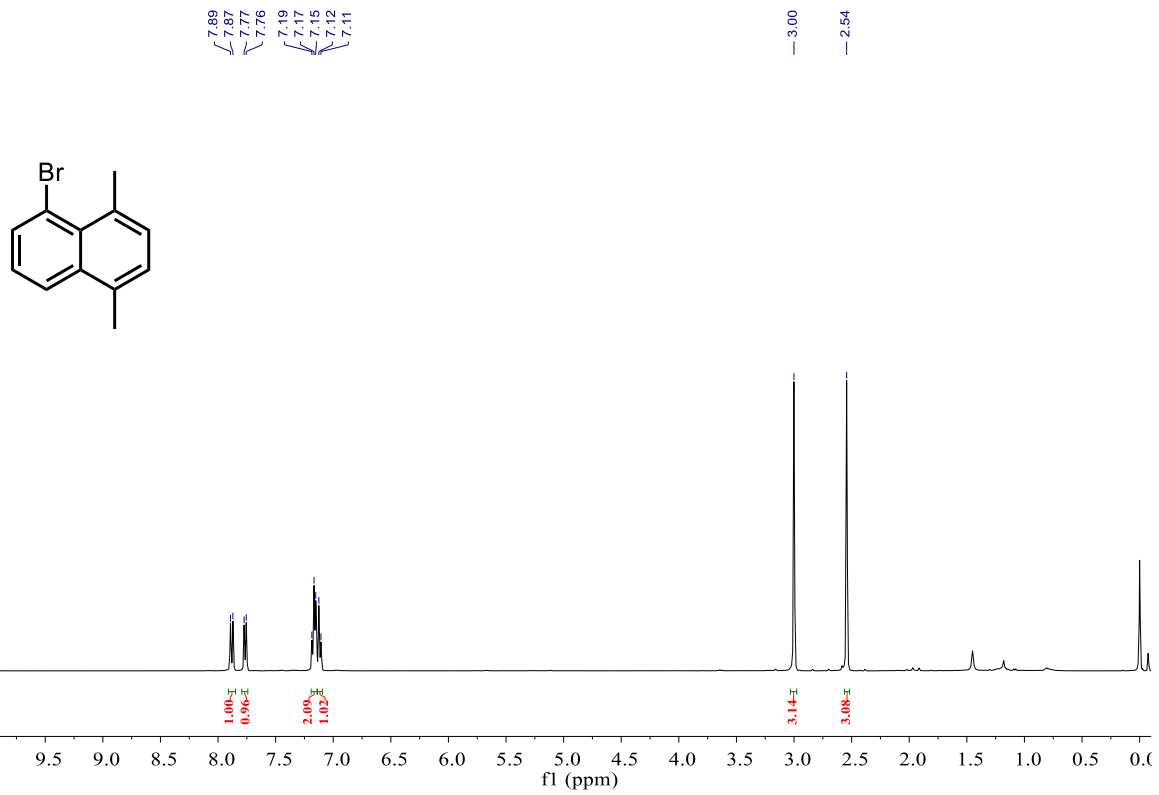
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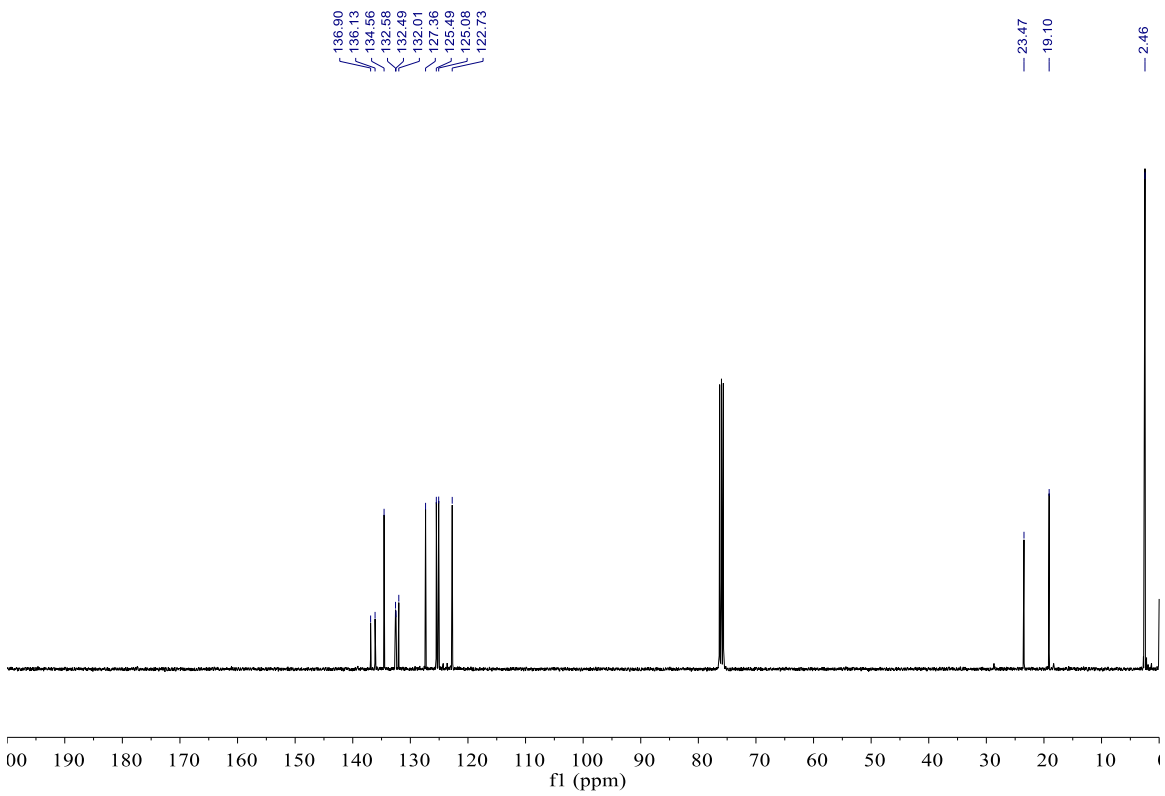
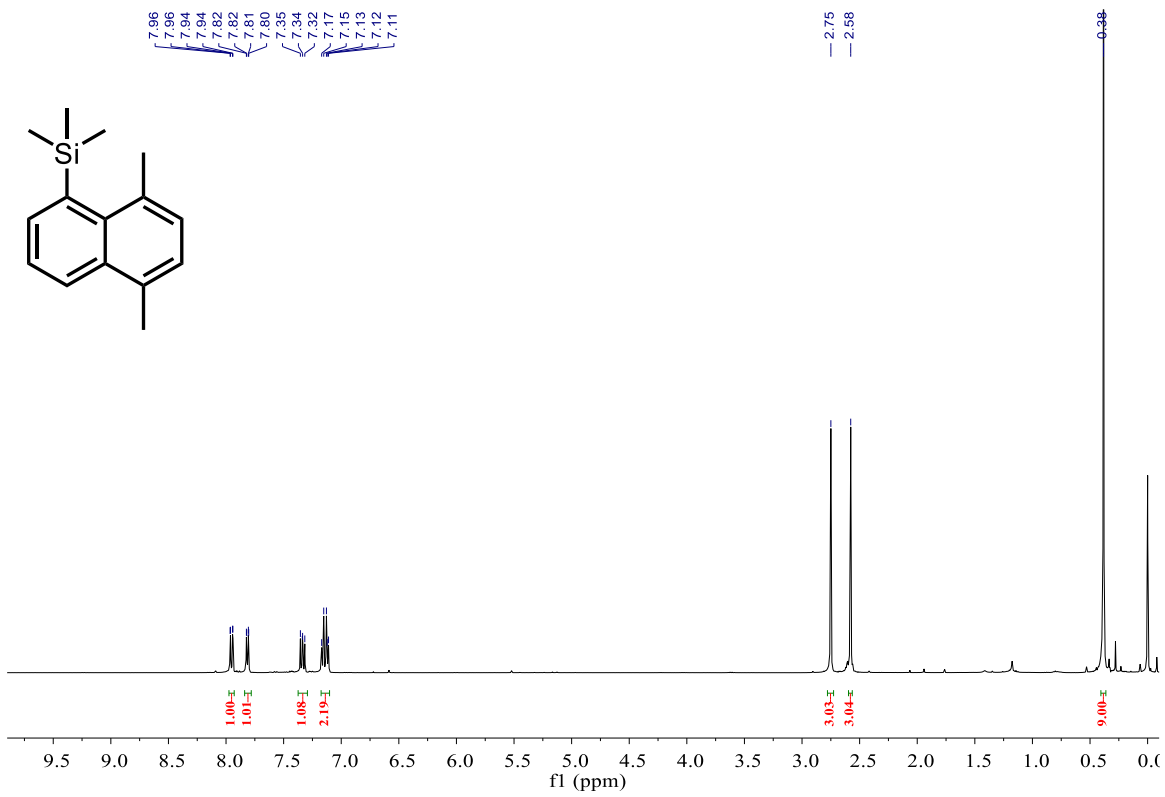
# NMR spectra

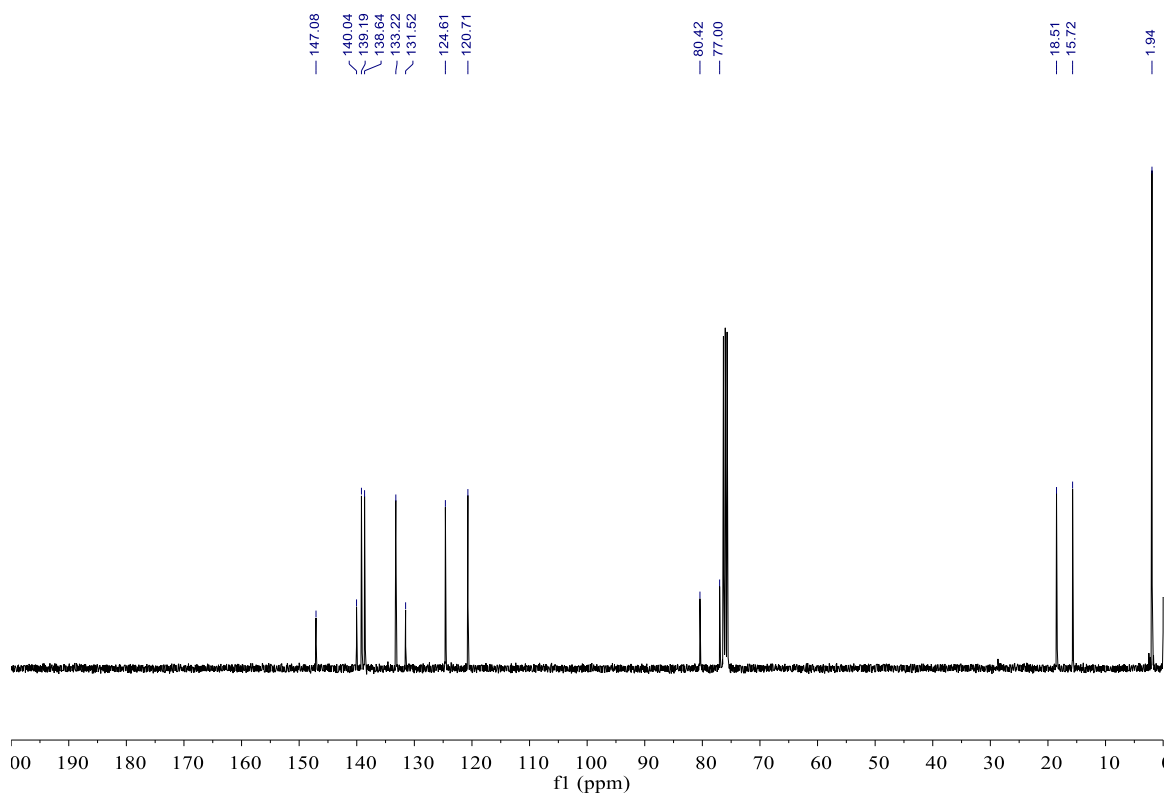
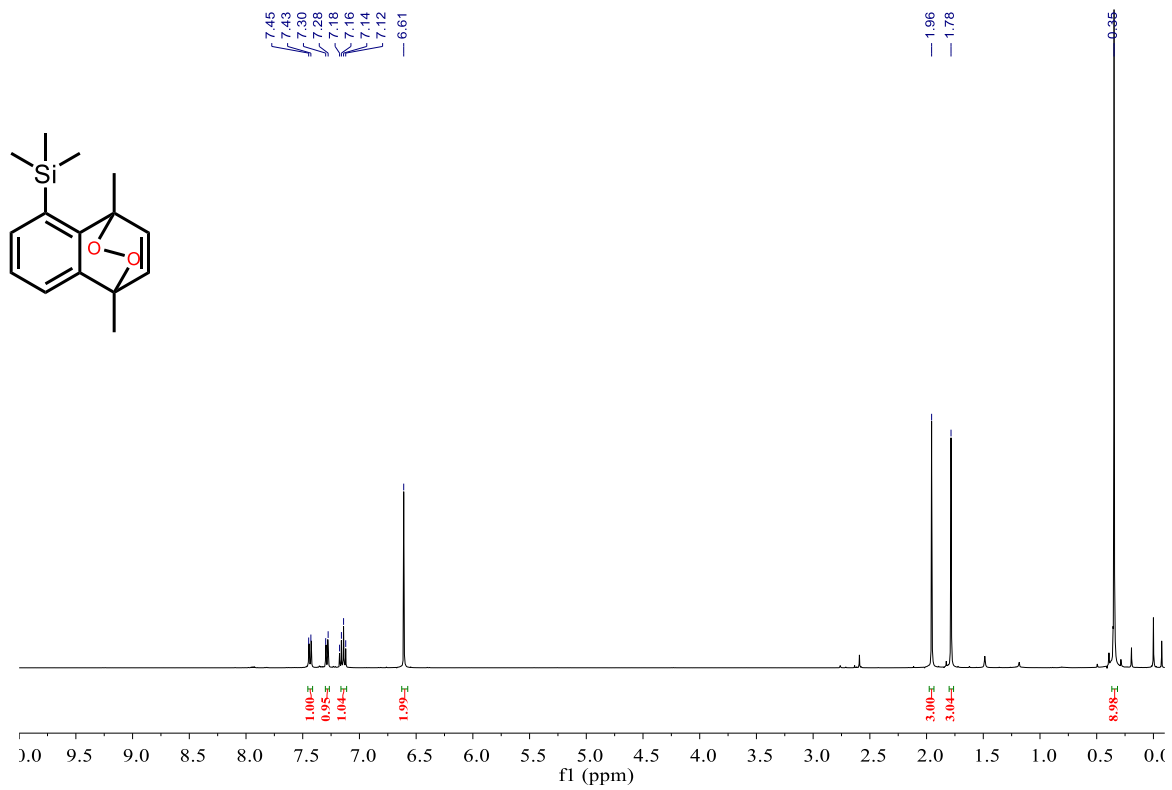




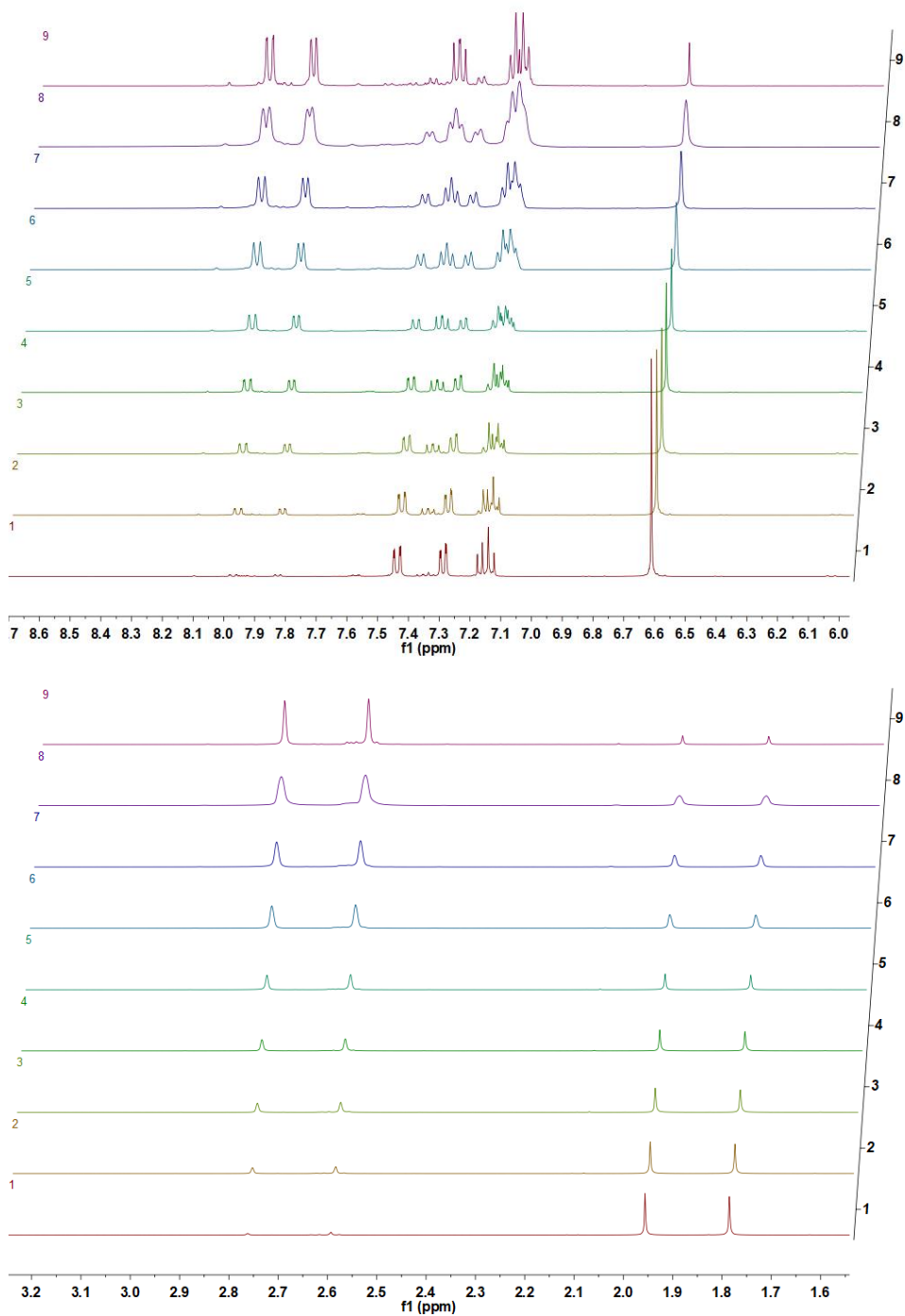






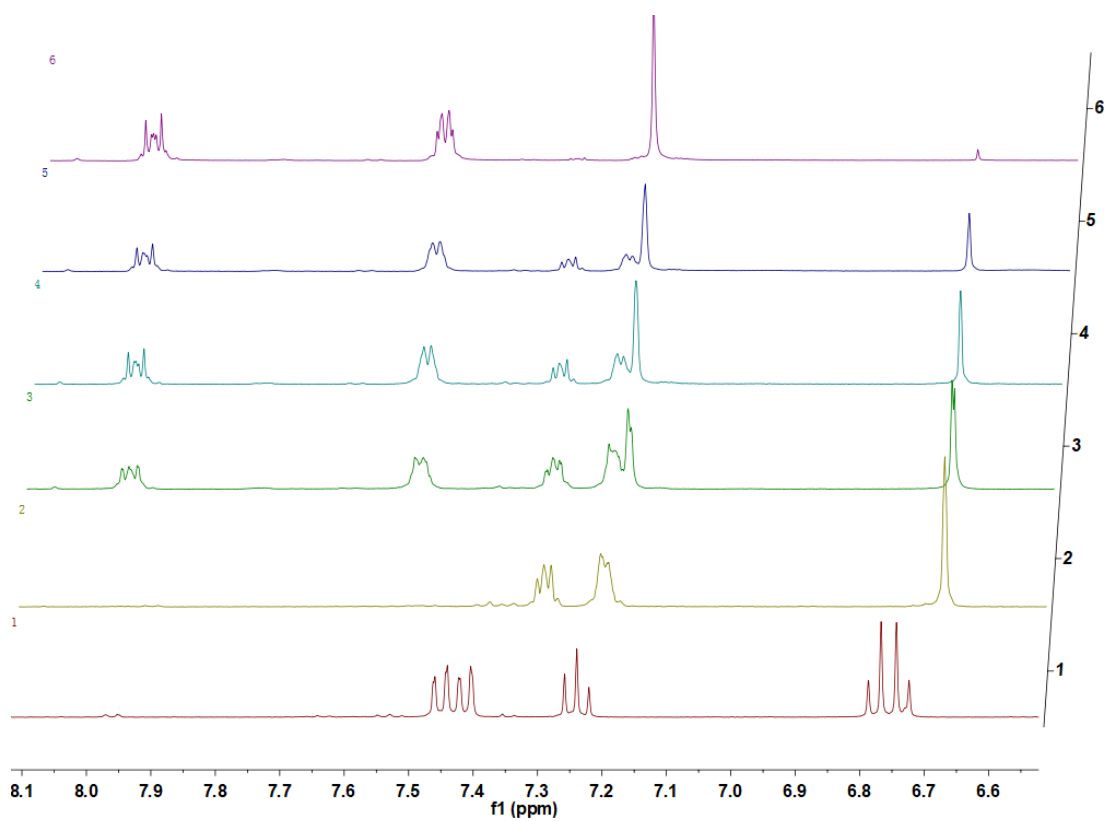


## Reaction rate experiments



**Figure S1.** Evolution of the NMR spectra of endoperoxide with time at 25 °C in Chloroform-*d* as the solvent. (Spectra 1: 0 hours, Spectra 2: 30 hours, Spectra 3: 54 hours, Spectra 4: 77 hours, Spectra 5: 125 hours, Spectra 6: 173 hours, Spectra 7: 197 hours, Spectra 8: 246 hours, Spectra 9: 292 hours).

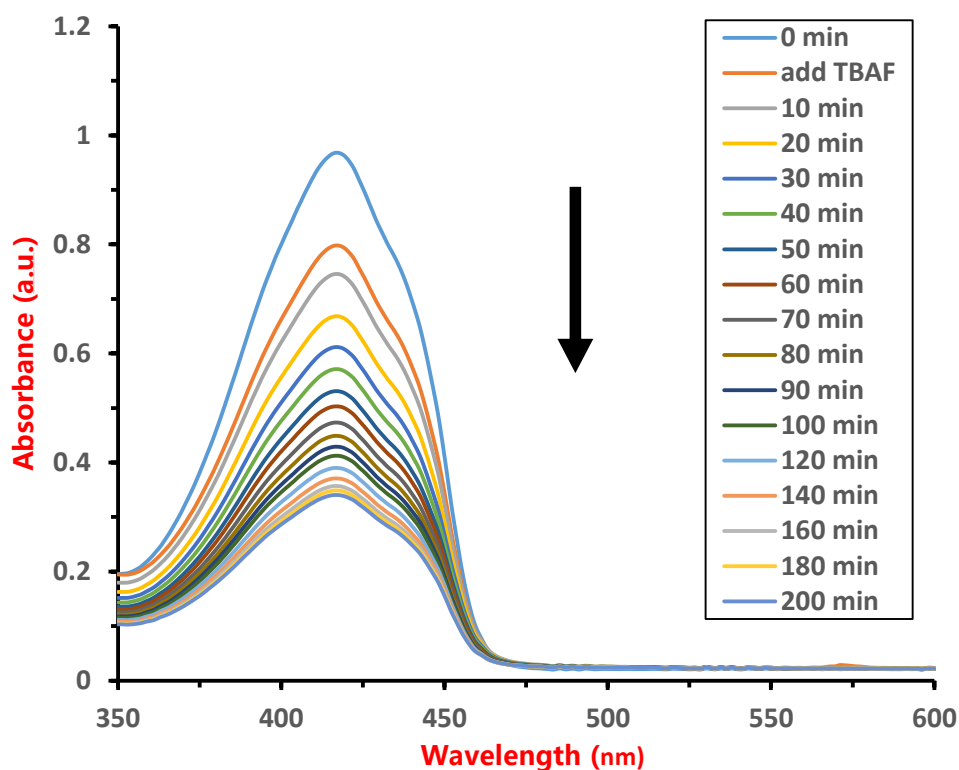




**Figure S2.** Evolution of the NMR spectra of TBAF added endoperoxide with time at 25 °C in DMSO- $d_6$  as the solvent. (Spectra 1: 0 hours, Spectra 2: 5 minutes, Spectra 3: 2 hours, Spectra 4: 3.5 hours, Spectra 5: 4.5 hours, Spectra 6: 16.5 hours).

## Singlet oxygen trap experiments

In singlet oxygen generation experiments, 1,3-Diphenylisobenzofuran (DPBF) was used as chemical singlet oxygen trap molecule in DMSO. This procedure includes approximately 200  $\mu\text{M}$  Compound **7** mixed with trap compound (approximately 27  $\mu\text{M}$ ) in DMSO. TBAF (approximately 6 mM) was added. Measurements were taken at 10 minutes intervals at 37 °C in dark conditions. Absorbance decrease of trap molecules at 414 nm was monitored, revealing singlet oxygen generation as a result of the silyl group removal.



**Figure S3.** Decreasing absorbance peak for the singlet oxygen trap DPBF at 414 nm with time in DMSO in response to the addition of fluoride (TBAF) to compound **7**.