

## Supporting information

### **Design and Synthesis of Cysteine-Specific Labels for Photo-Crosslinking Studies**

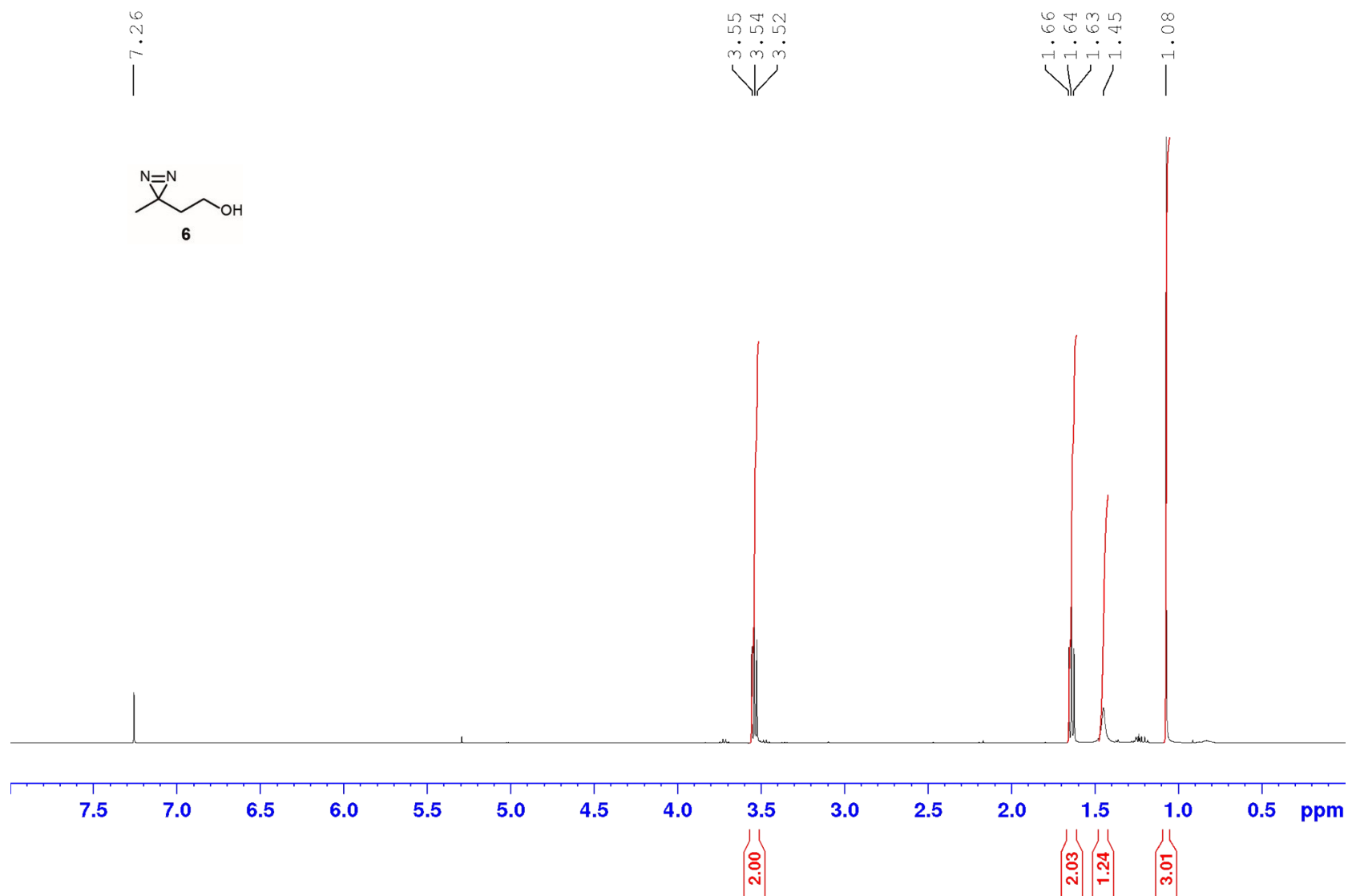
Martin Walko,<sup>a,b</sup> Eric Hewitt,<sup>b,c</sup> Sheena E. Radford,<sup>b,c</sup> and Andrew J Wilson,<sup>\*a,b</sup>

<sup>a</sup>School of Chemistry, University of Leeds, Leeds, LS2 9JT (UK) E-mail: a.j.wilson@leeds.ac.uk

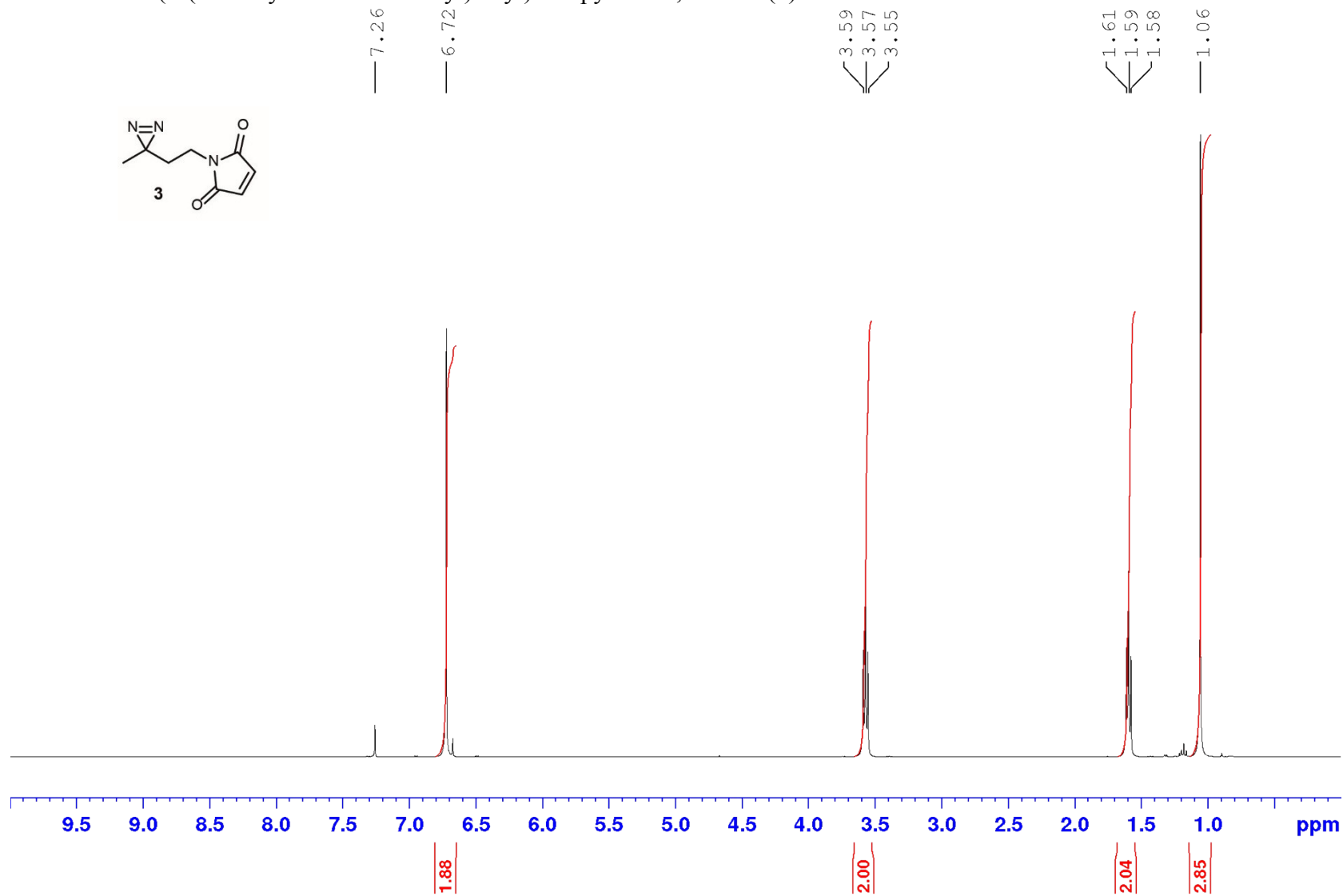
<sup>b</sup>Astbury Centre for Structural Molecular Biology, University of Leeds, Leeds, LS2 9JT (UK).

<sup>c</sup>School of Molecular and Cellular Biology, Faculty of Biological Sciences, University of Leeds, Leeds, LS2 9JT (UK).

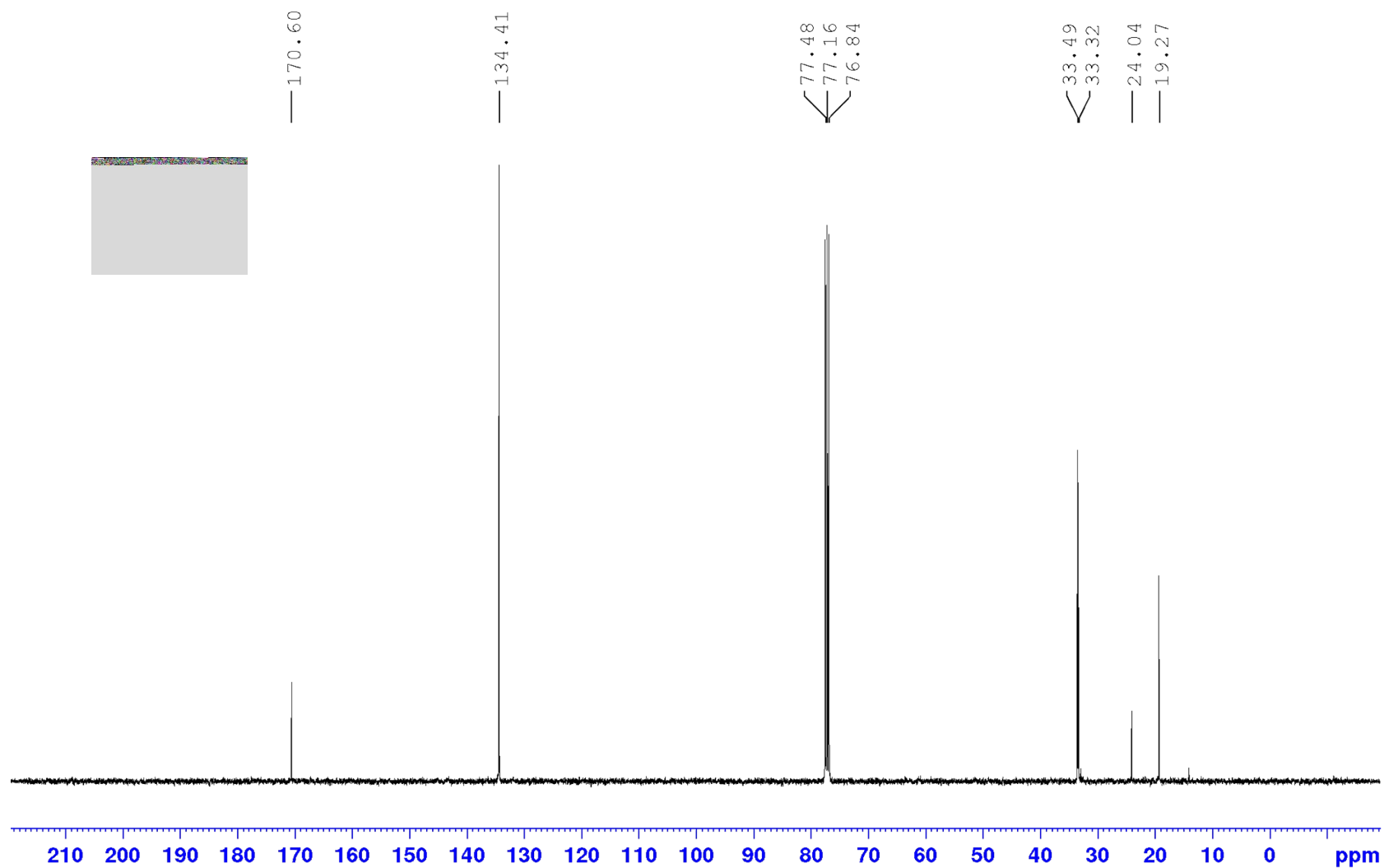
$^1\text{H}$  NMR of 2-(3-Methyl-3H-diaziren-3-yl)ethanol (**6**)



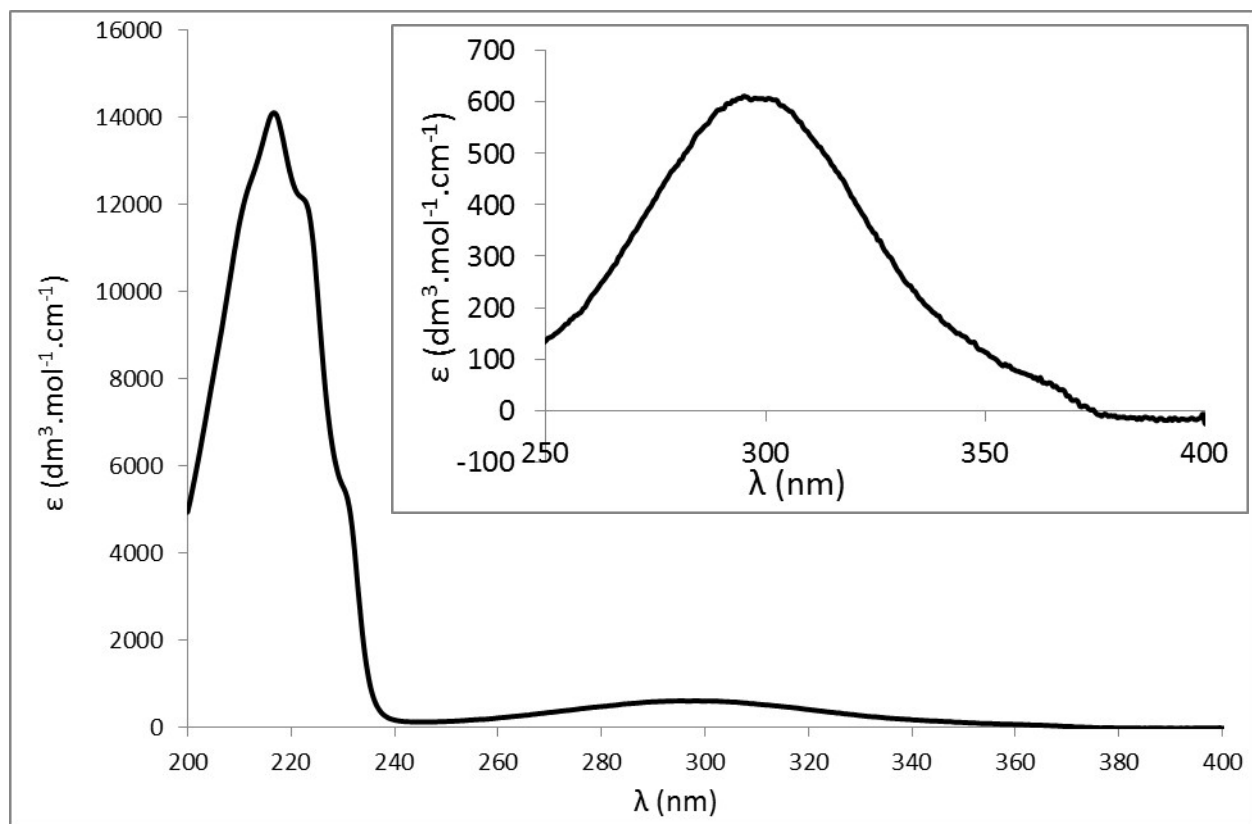
<sup>1</sup>H NMR of 1-(2-(3-methyl-3H-diazirin-3-yl)ethyl)-1H-pyrrole-2,5-dione (**3**)



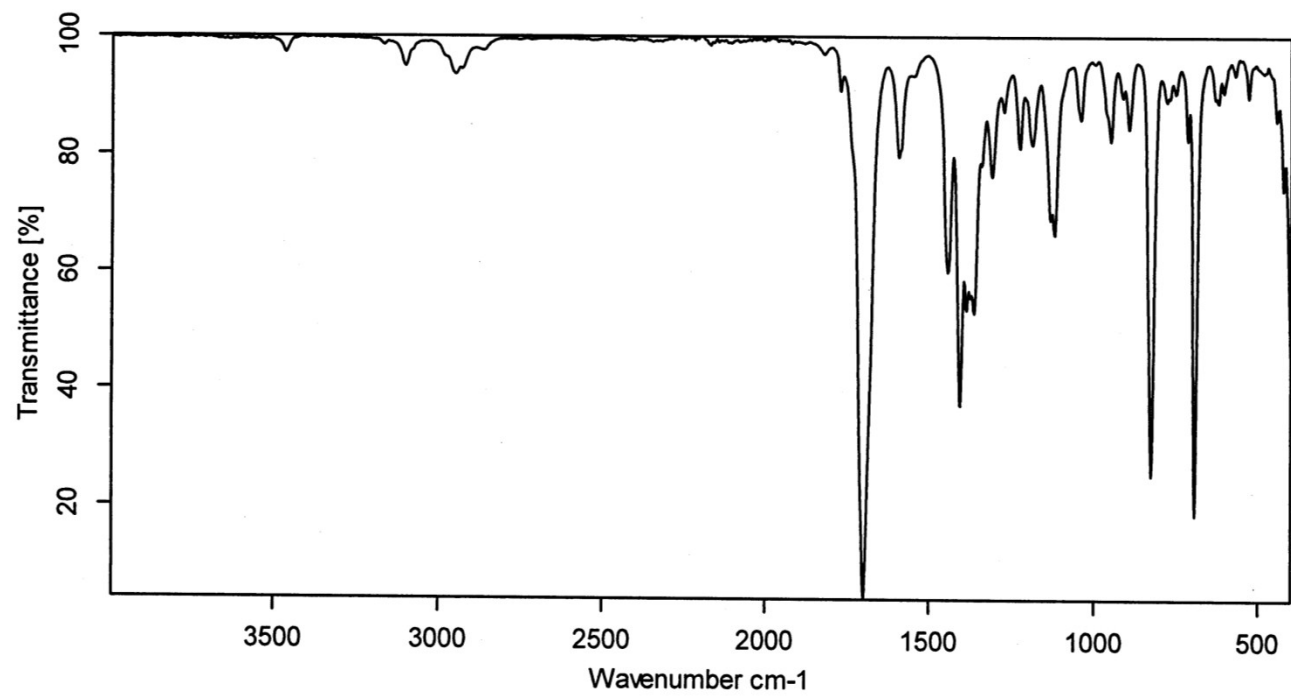
$^{13}\text{C}$  NMR of 1-(2-(3-methyl-3H-diazirin-3-yl)ethyl)-1H-pyrrole-2,5-dione (**3**)



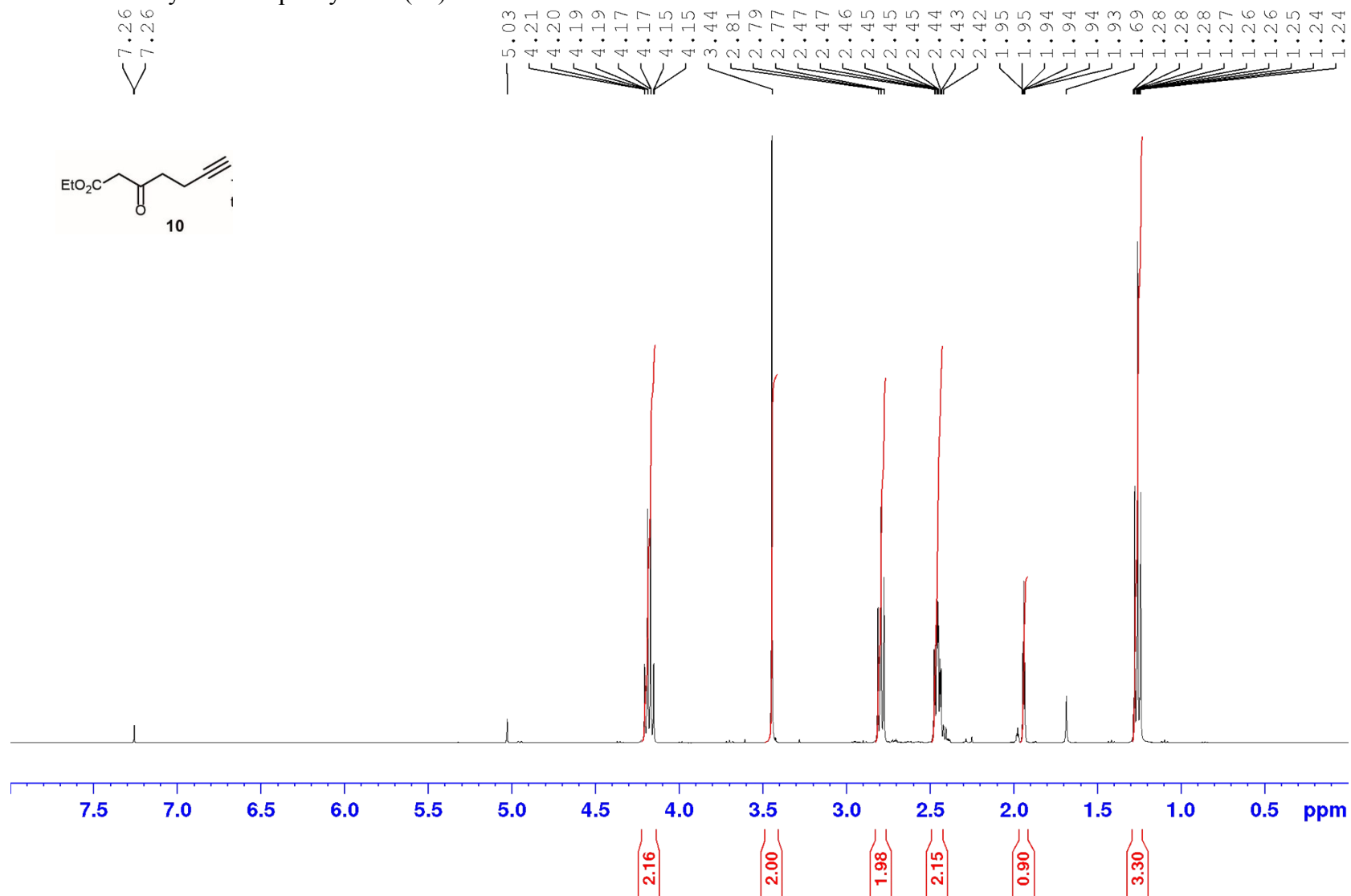
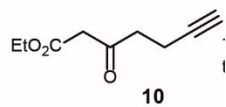
UV-vis of 1-(2-(3-methyl-3H-diazirin-3-yl)ethyl)-1H-pyrrole-2,5-dione (**3**)



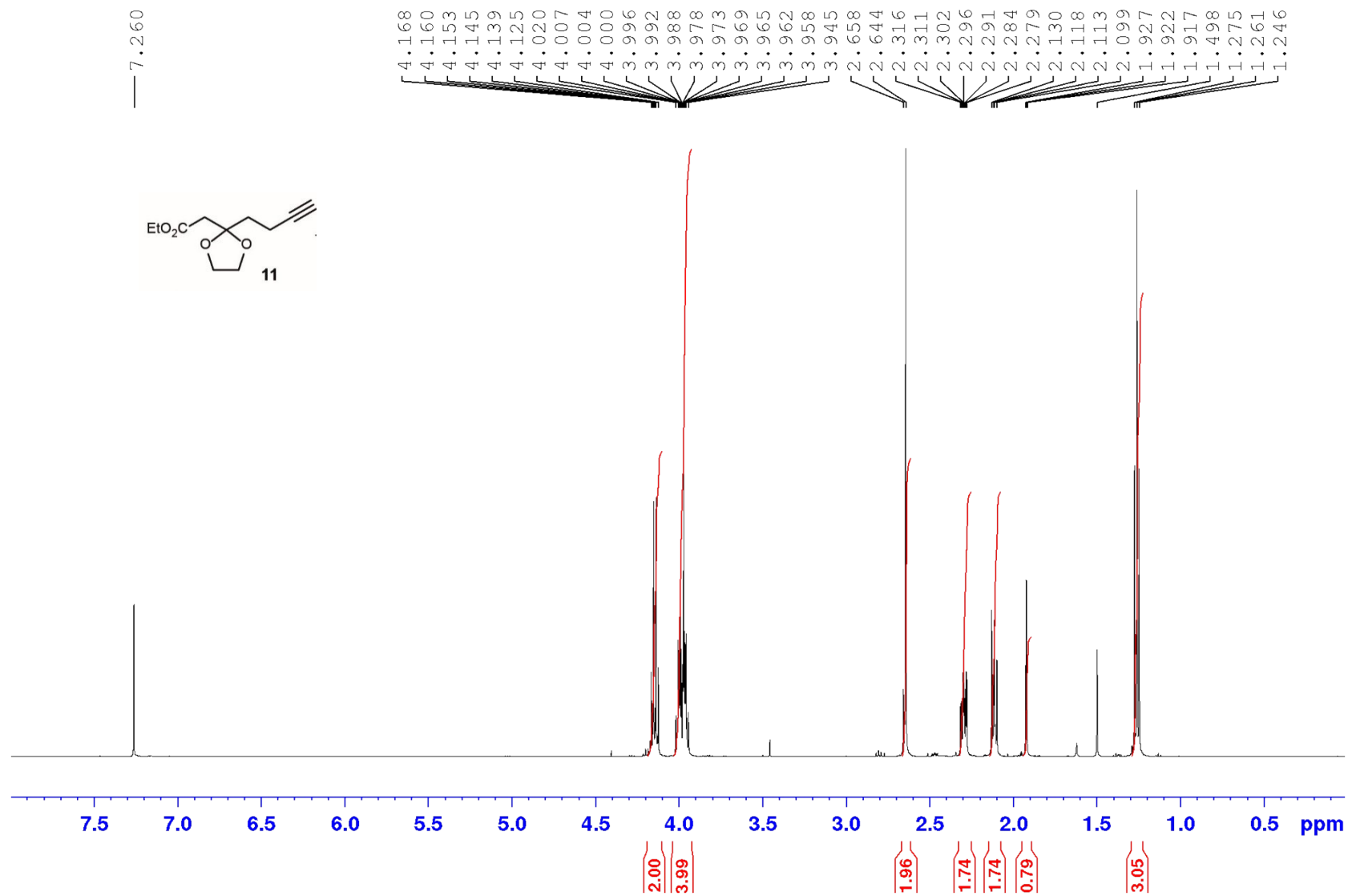
FT-IR of 1-(2-(3-methyl-3H-diazirin-3-yl)ethyl)-1H-pyrrole-2,5-dione (**3**)



<sup>1</sup>H NMR of ethyl 3-oxohept-6-ynoate (**10**)

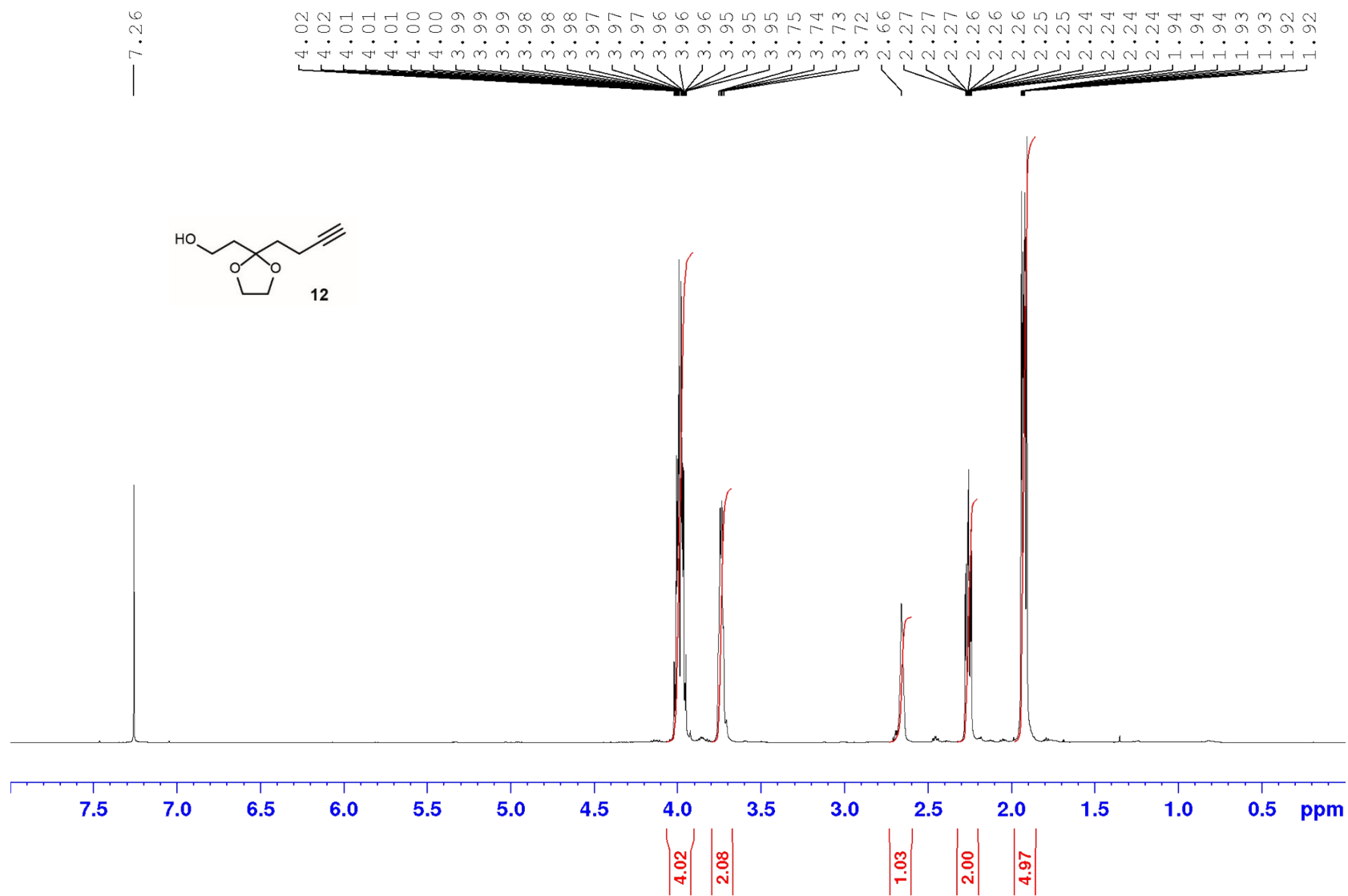


<sup>1</sup>H NMR of ethyl 2-(2-(but-3-yn-1-yl)-1,3-dioxolan-2-yl)acetate (**11**)

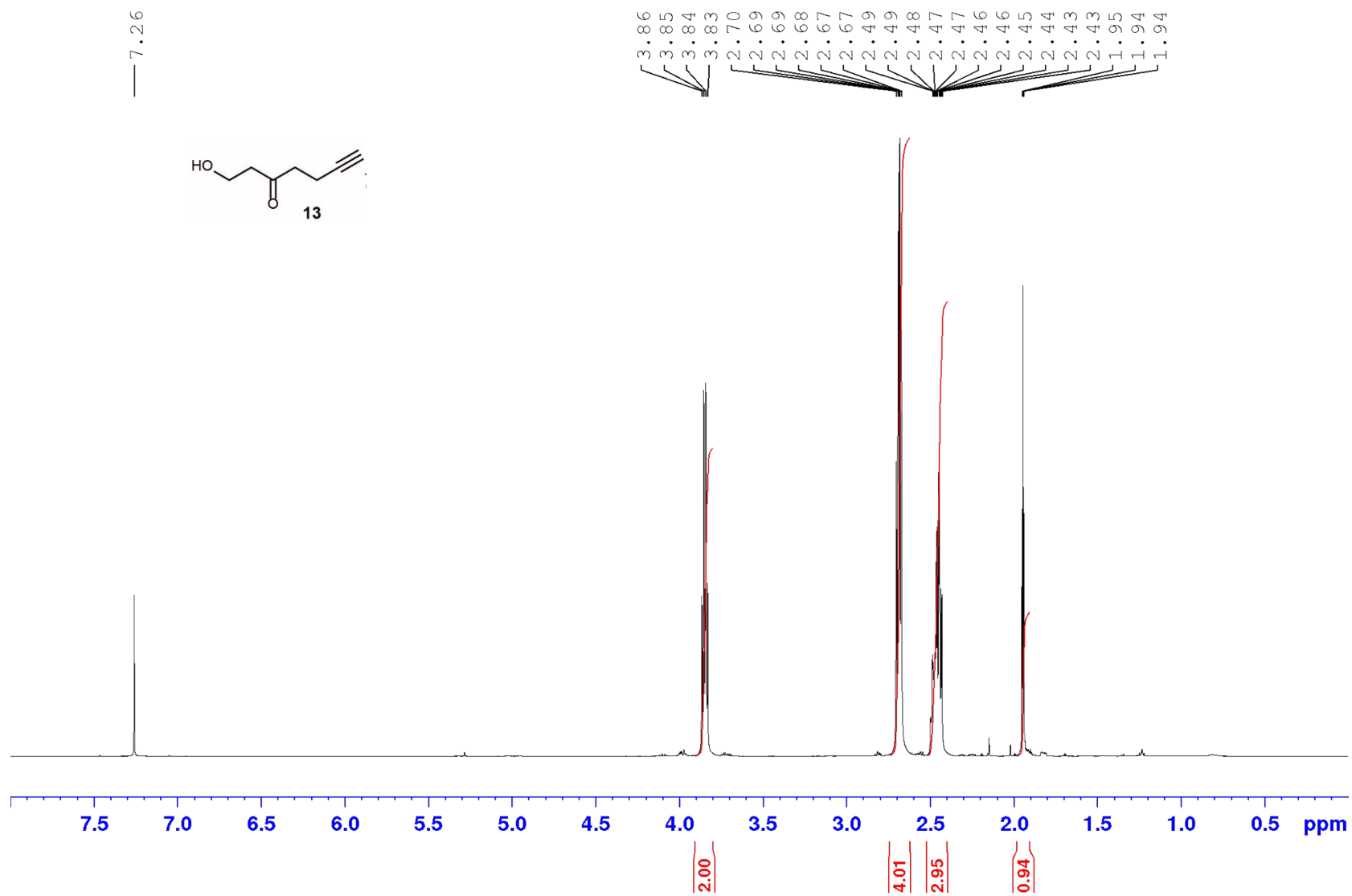




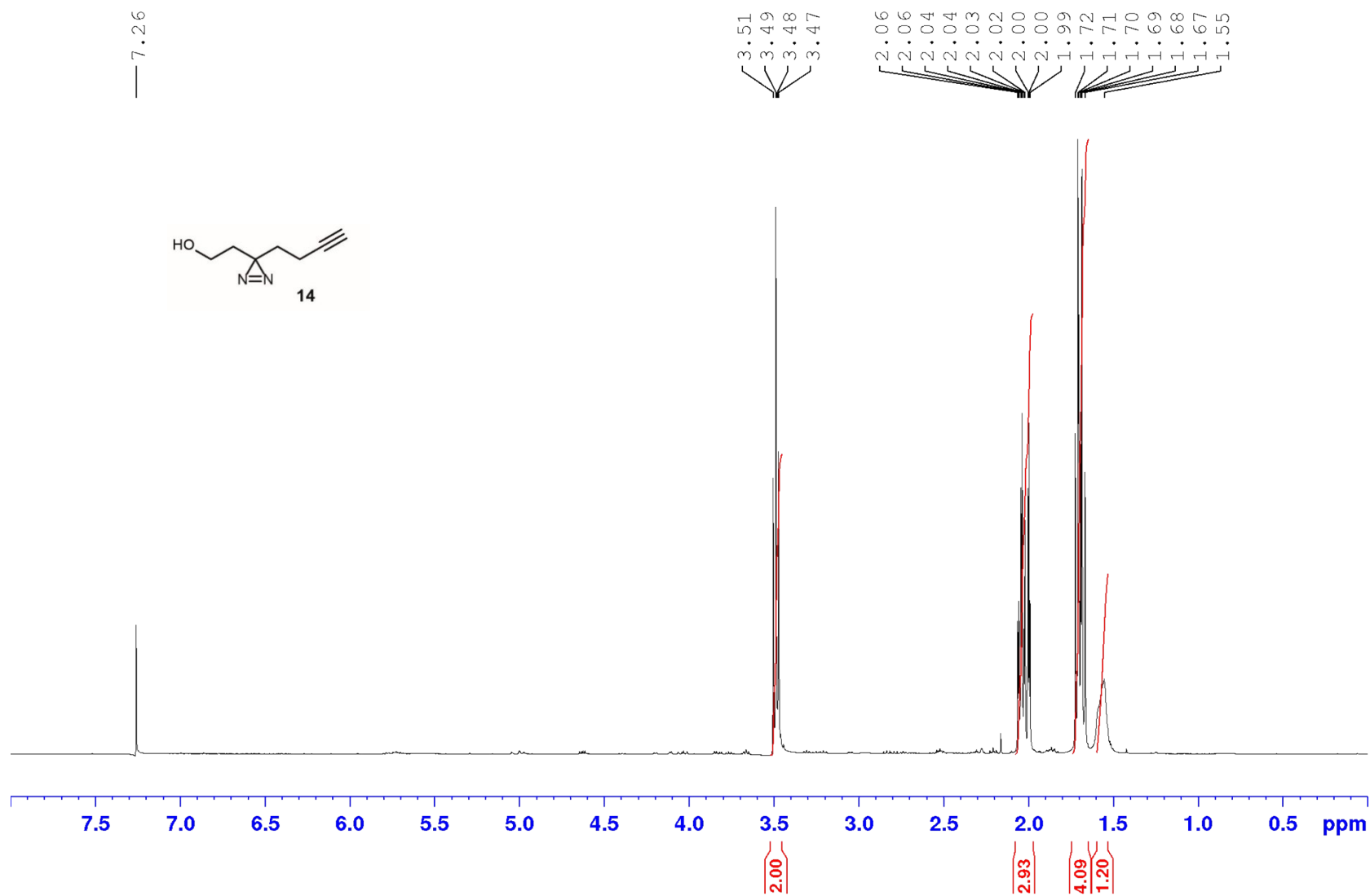
<sup>1</sup>H NMR of 2-(2-(but-3-yn-1-yl)-1,3-dioxolan-2-yl)ethanol (**12**)



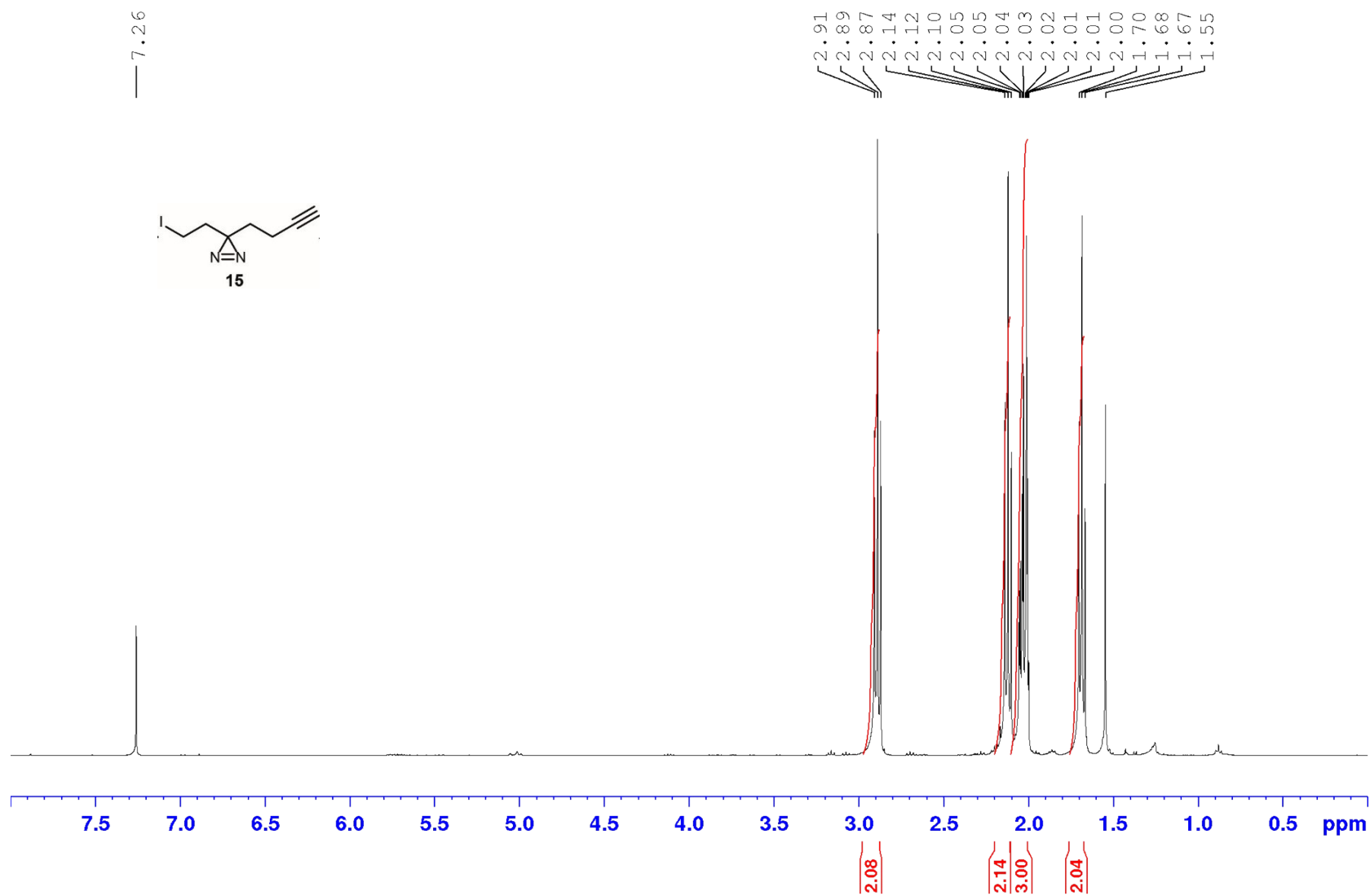
<sup>1</sup>H NMR of 1-hydroxyhept-6-yn-3-one (**13**)



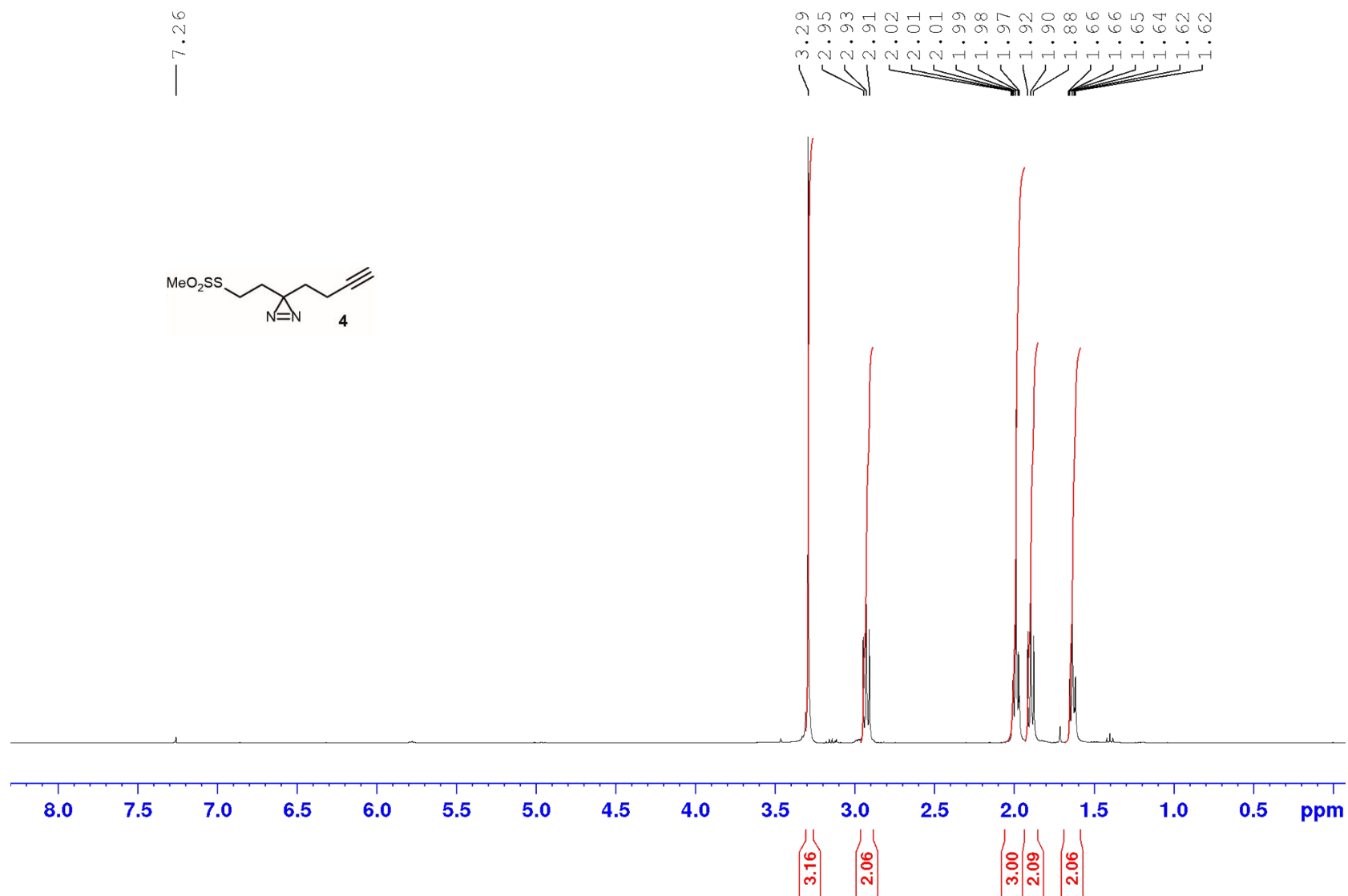
<sup>1</sup>H NMR of 2-(3-(but-3-yn-1-yl)-3H-diazirin-3-yl)ethanol (**14**)



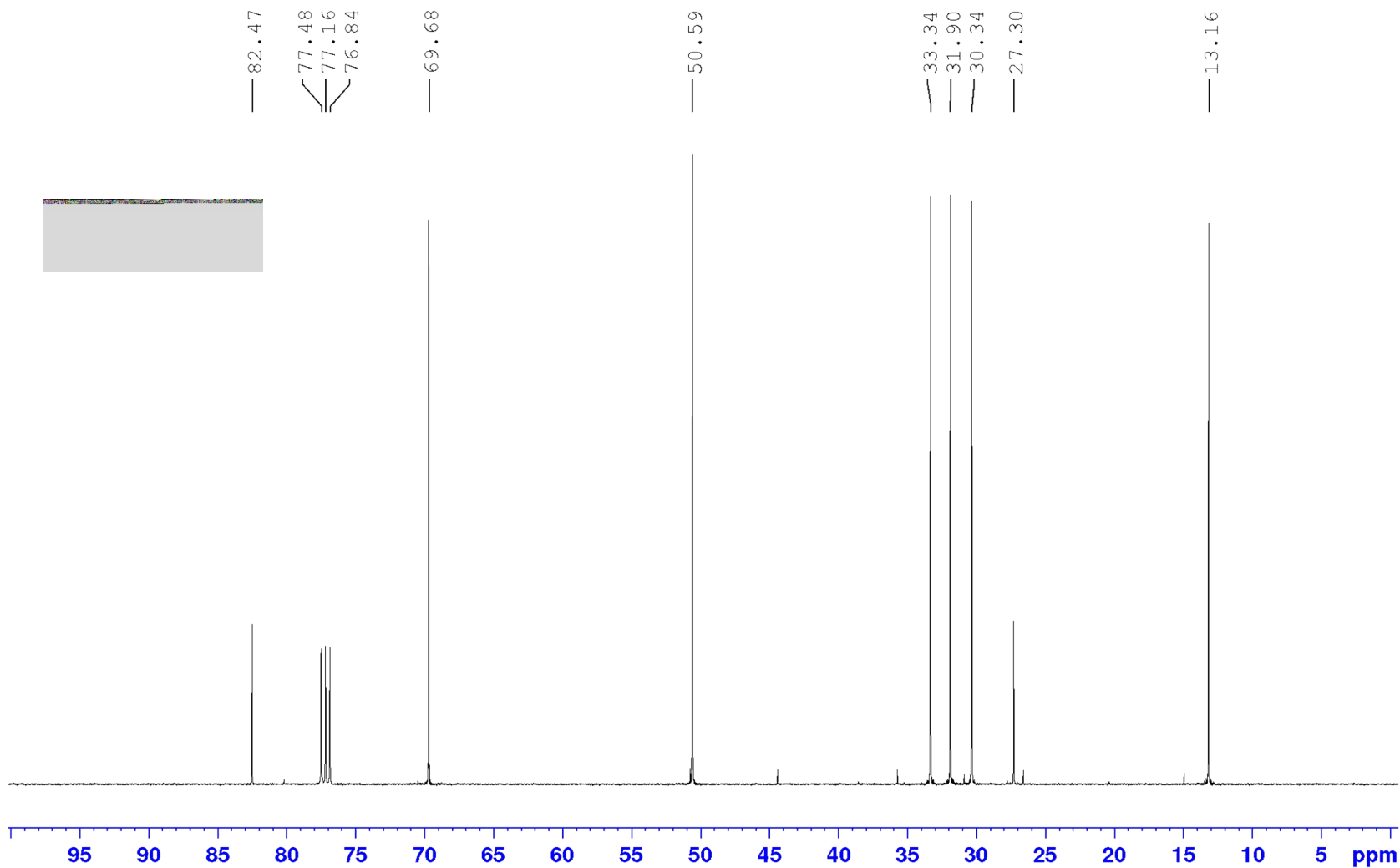
<sup>1</sup>H NMR of 3-(but-3-yn-1-yl)-3-(2-iodoethyl)-3H-diazirine (**15**)



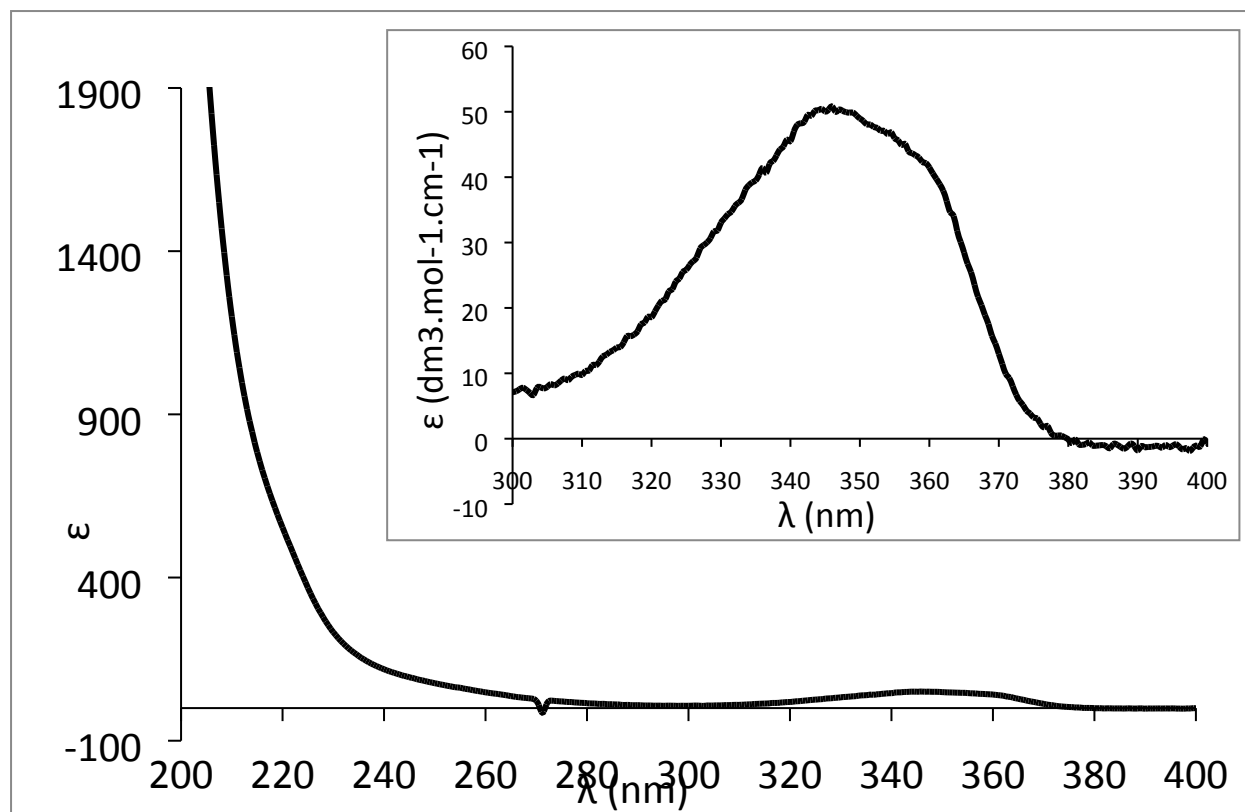
<sup>1</sup>H NMR of *O*-methyl 2-(3-(but-3-yn-1-yl)-3H-diazirin-3-yl)ethanesulfono-thioate (**4**)



<sup>13</sup>C NMR of *O*-methyl 2-(3-(but-3-yn-1-yl)-3H-diazirin-3-yl)ethanesulfonylthioate (**4**)



UV-vis of *O*-methyl 2-(3-(but-3-yn-1-yl)-3H-diazirin-3-yl)ethanesulfono-thioate (4)



FT-IR of *O*-methyl 2-(3-(but-3-yn-1-yl)-3H-diazirin-3-yl)ethanesulfono-thioate (4)

