

Supporting Information

**Glycerol: more benign and biodegradable promoting medium for catalyst-free one-pot multi-component synthesis of triazolo[1,2-*a*]indazole-triones**

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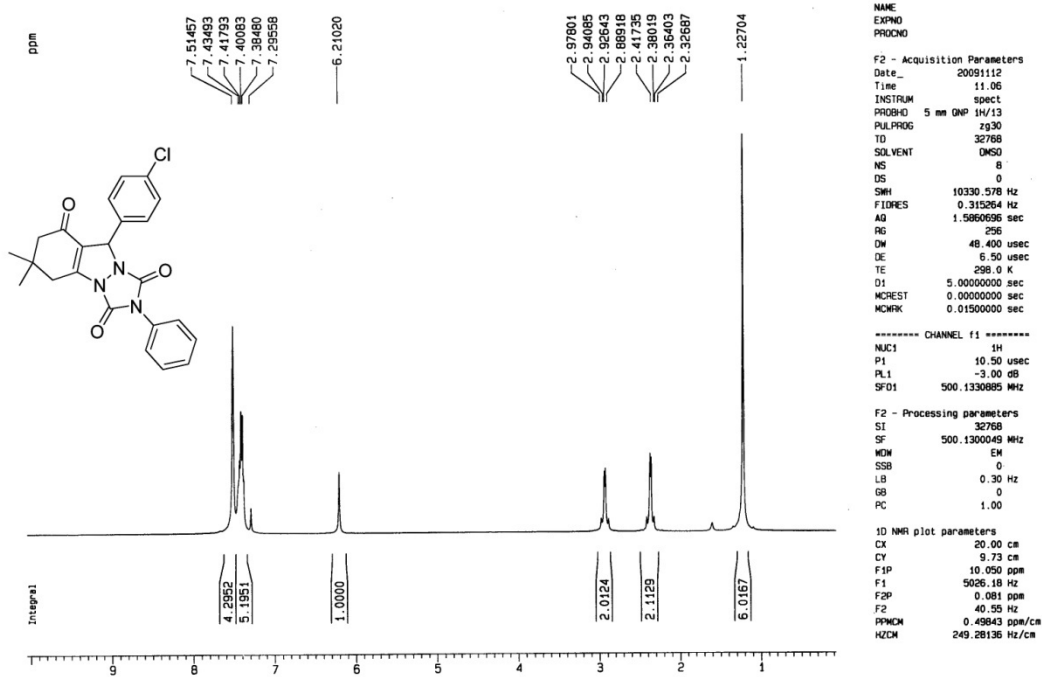
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### **General procedure for the synthesis of triazolo[1,2-*a*]indazole-trione derivatives**

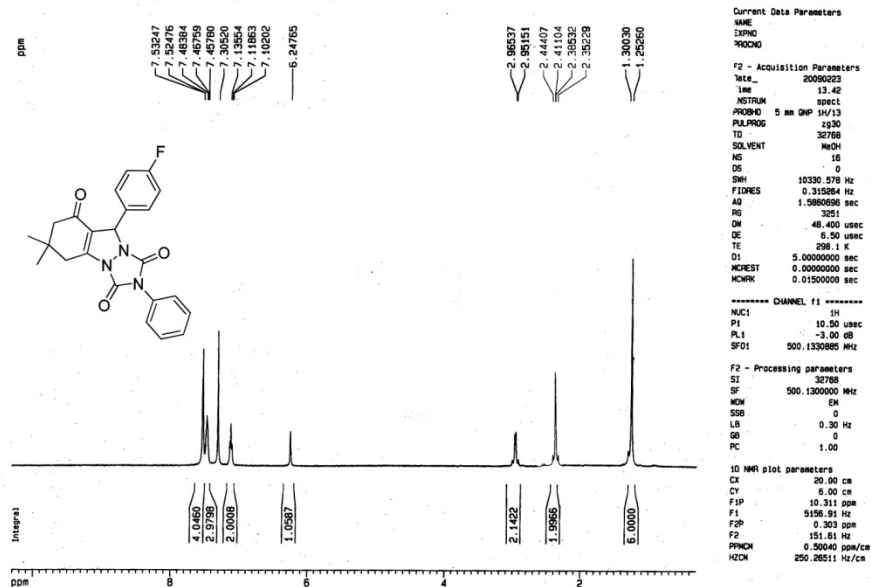
To a mixture of aldehyde (1 mmol), carbonyl compound possessing a reactive  $\alpha$ -methylene group (1 mmol) and urazole (1 mmol) in a 10 mL round-bottomed flask connected to a reflux condenser, was added glycerol (1 mL), and the resulting mixture was stirred in an oil-bath (100 °C). The progress of the reaction was monitored by TLC using EtOAc/*n*-hexane (1:5) as an eluent. After completion of the reaction, warm water (5 mL) was added. Glycerol dissolved in the water and the insoluble crude products were isolated by simple filtration. The crude products were dissolved in warm EtOH (6 mL) and were allowed to stand at room temperature for 5-6 h. The crystalline solids were collected and dried.

### **General procedure for the large scale synthesis of triazolo[1,2-*a*]indazole-trione derivatives**

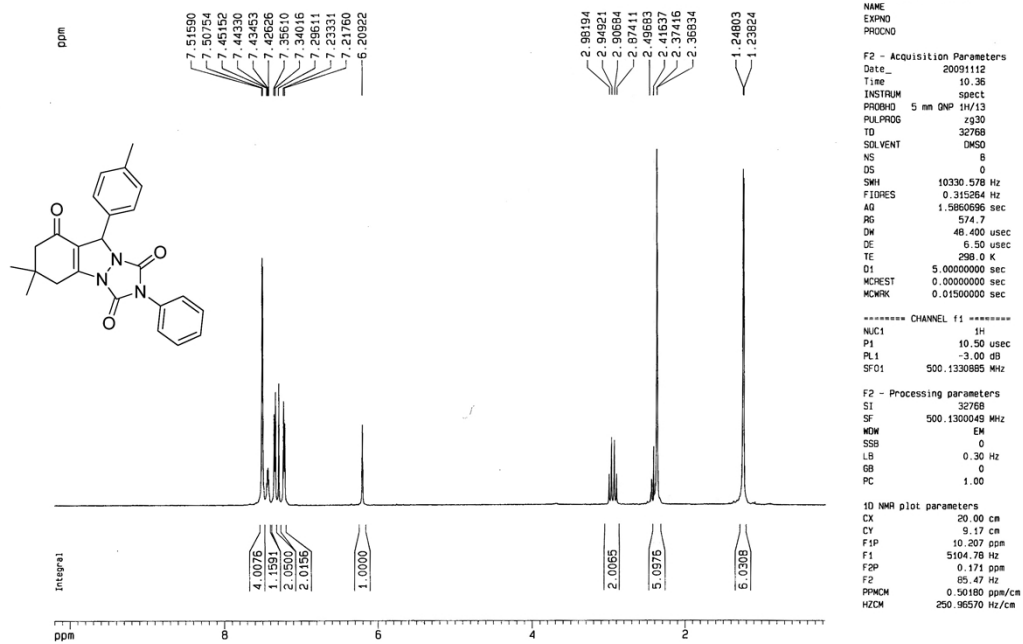
To a mixture of aldehyde (25 mmol), carbonyl compound possessing a reactive  $\alpha$ -methylene group (25 mmol) and urazole (25 mmol) in a 100 mL round-bottomed, two necked flask fitted with an efficient mechanical stirrer and a reflux condenser, was added glycerol (25 mL), and the resulting mixture was stirred in an oil-bath (100 °C). The progress of the reaction was monitored by TLC using EtOAc/*n*-hexane (1 : 5) as an eluent. After completion of the reaction, warm water (25 mL) was added. Glycerol dissolved in the water and the insoluble crude products were isolated by simple filtration. The crude products were dissolved in warm EtOH or (30 mL) and were allowed to stand at room temperature for 24 h.



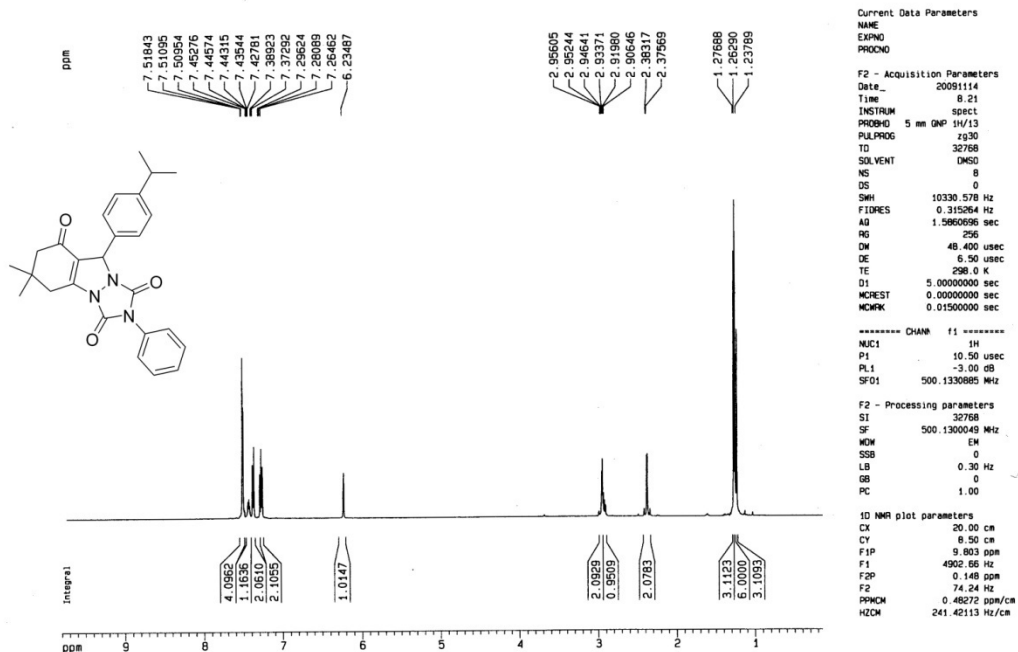
<sup>1</sup>H NMR of Compound 4d



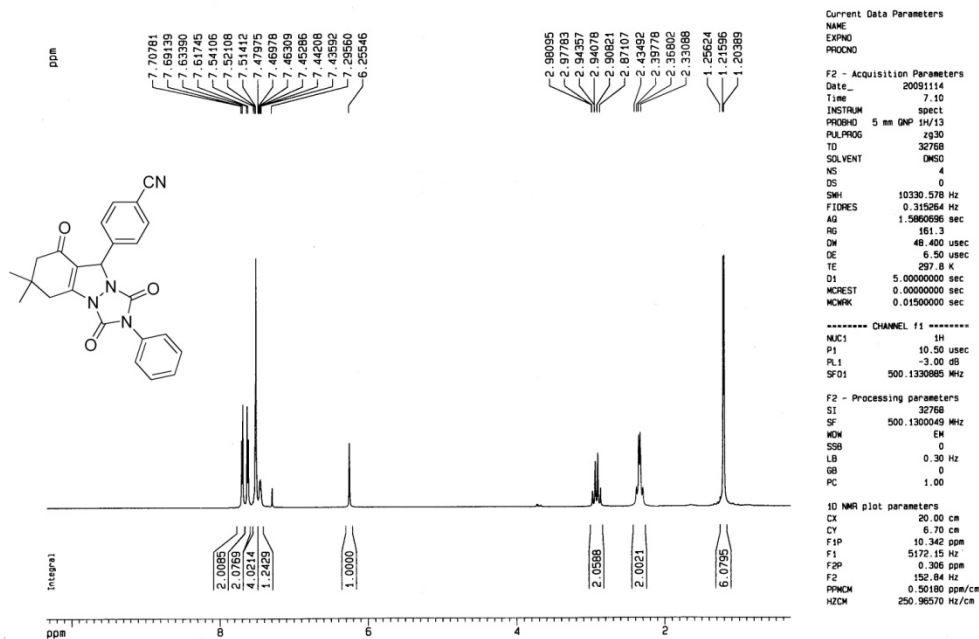
<sup>1</sup>H NMR of Compound 4f



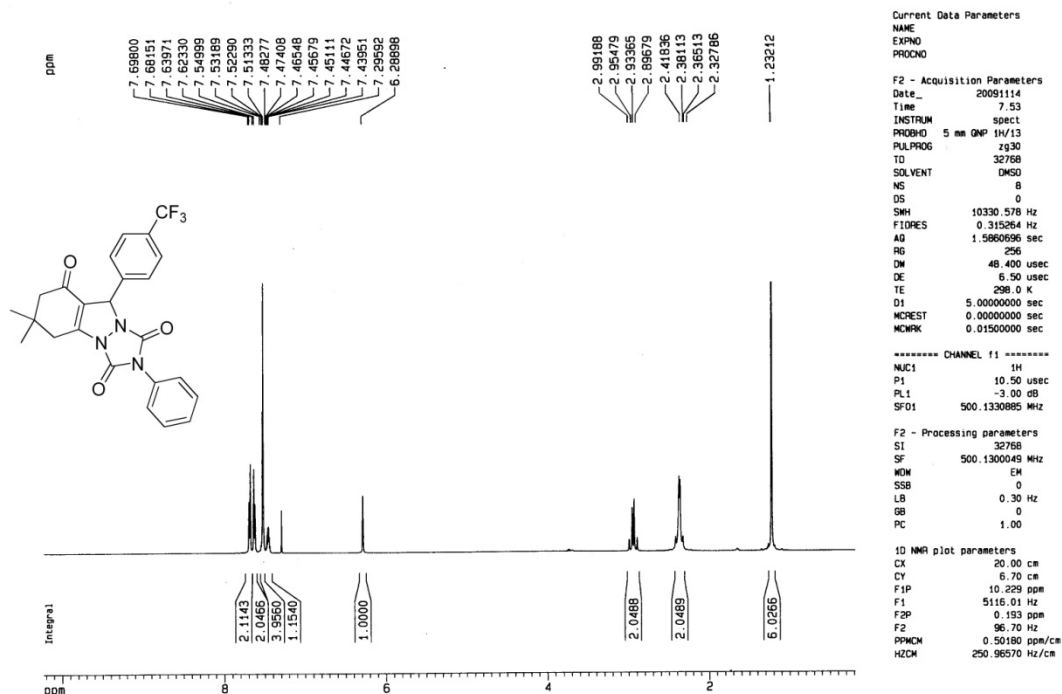
<sup>1</sup>H NMR of Compound 4g



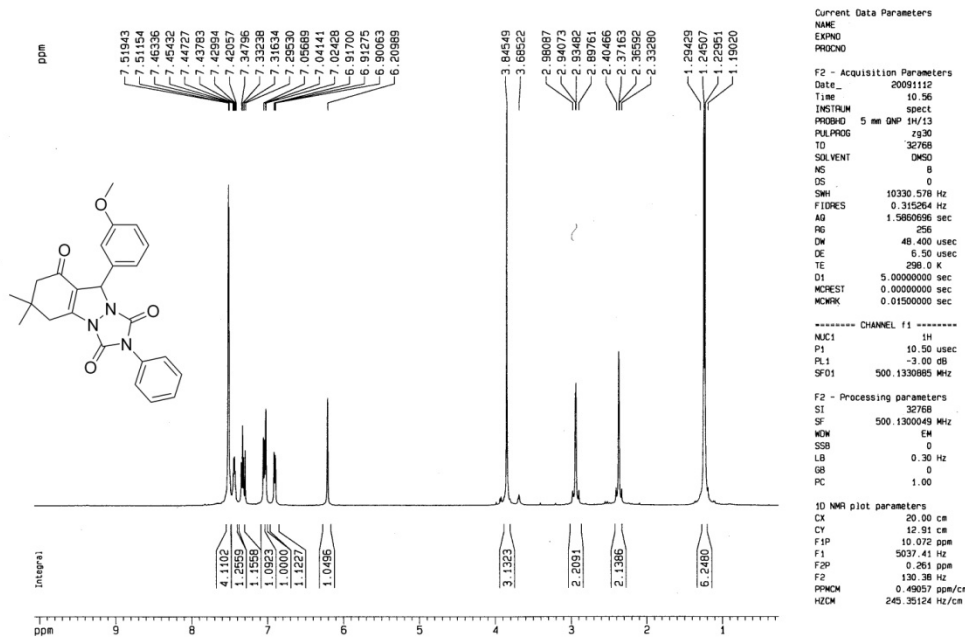
<sup>1</sup>H NMR of Compound 4h



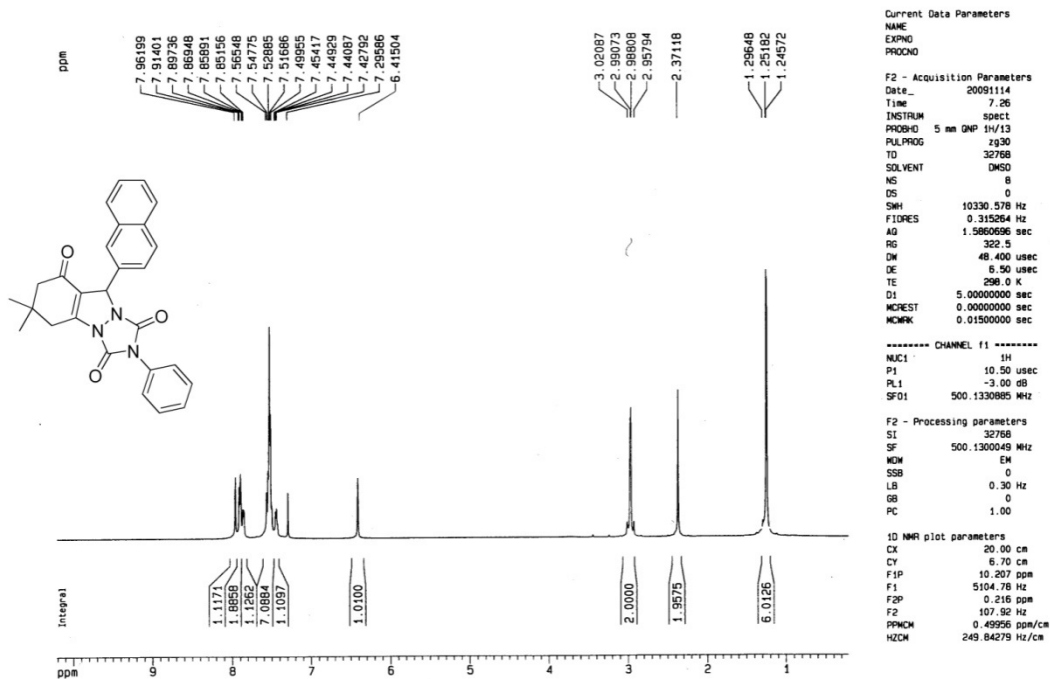
<sup>1</sup>H NMR of Compound 4k



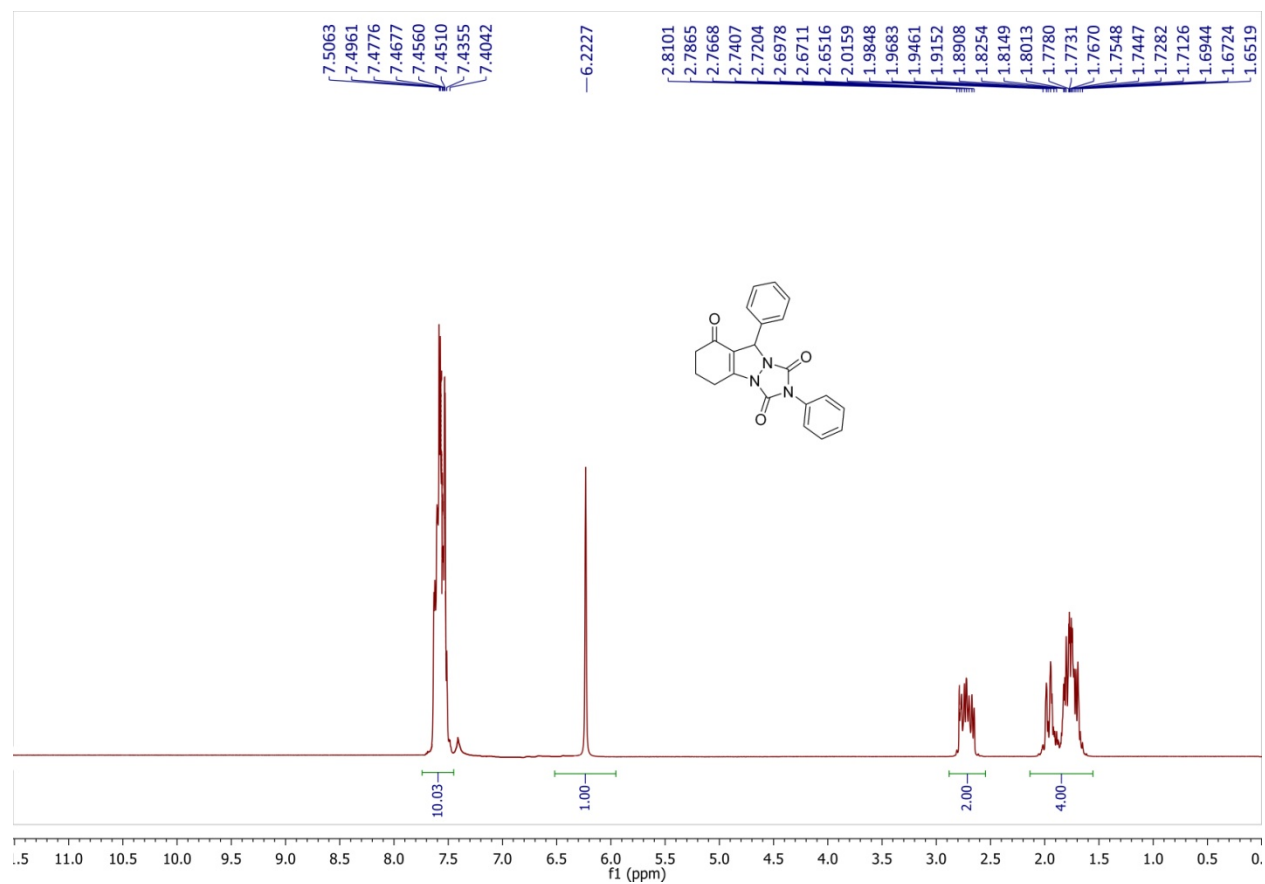
<sup>1</sup>H NMR of Compound 4l



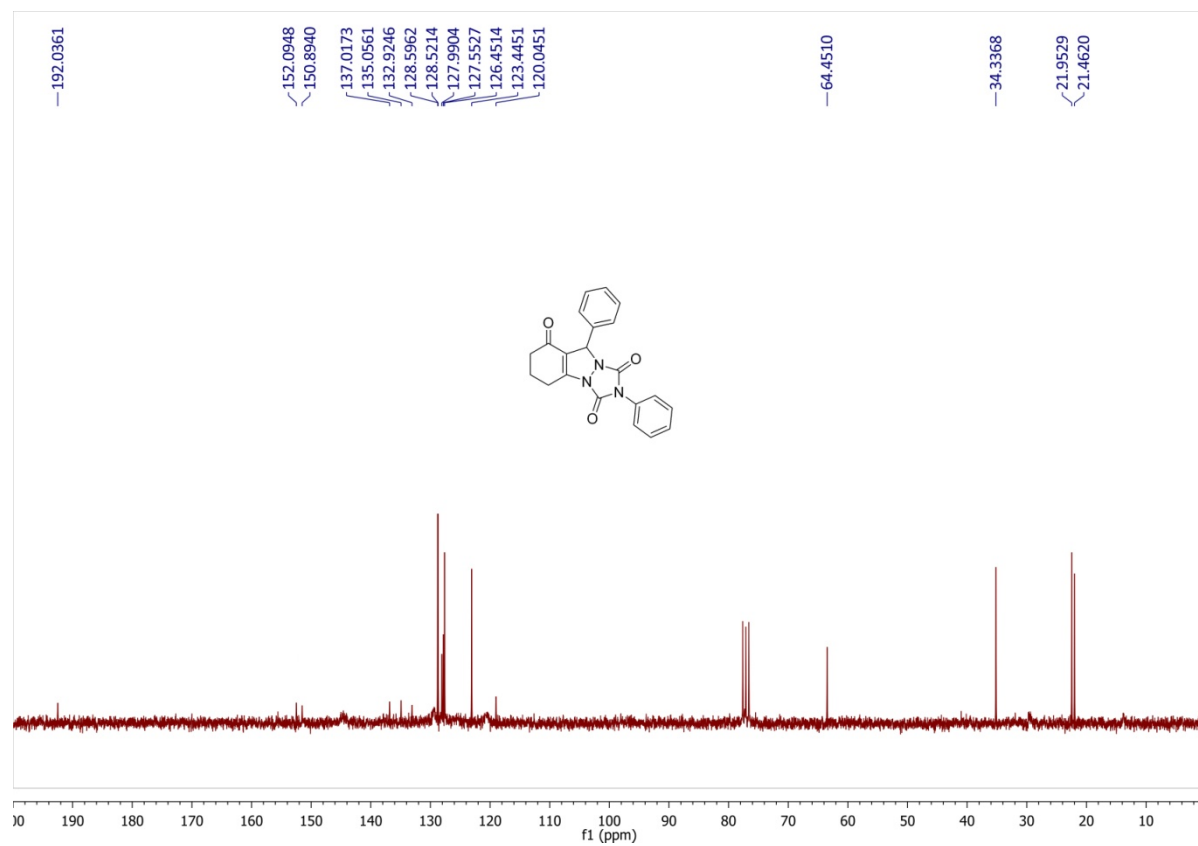
<sup>1</sup>H NMR of Compound 4m



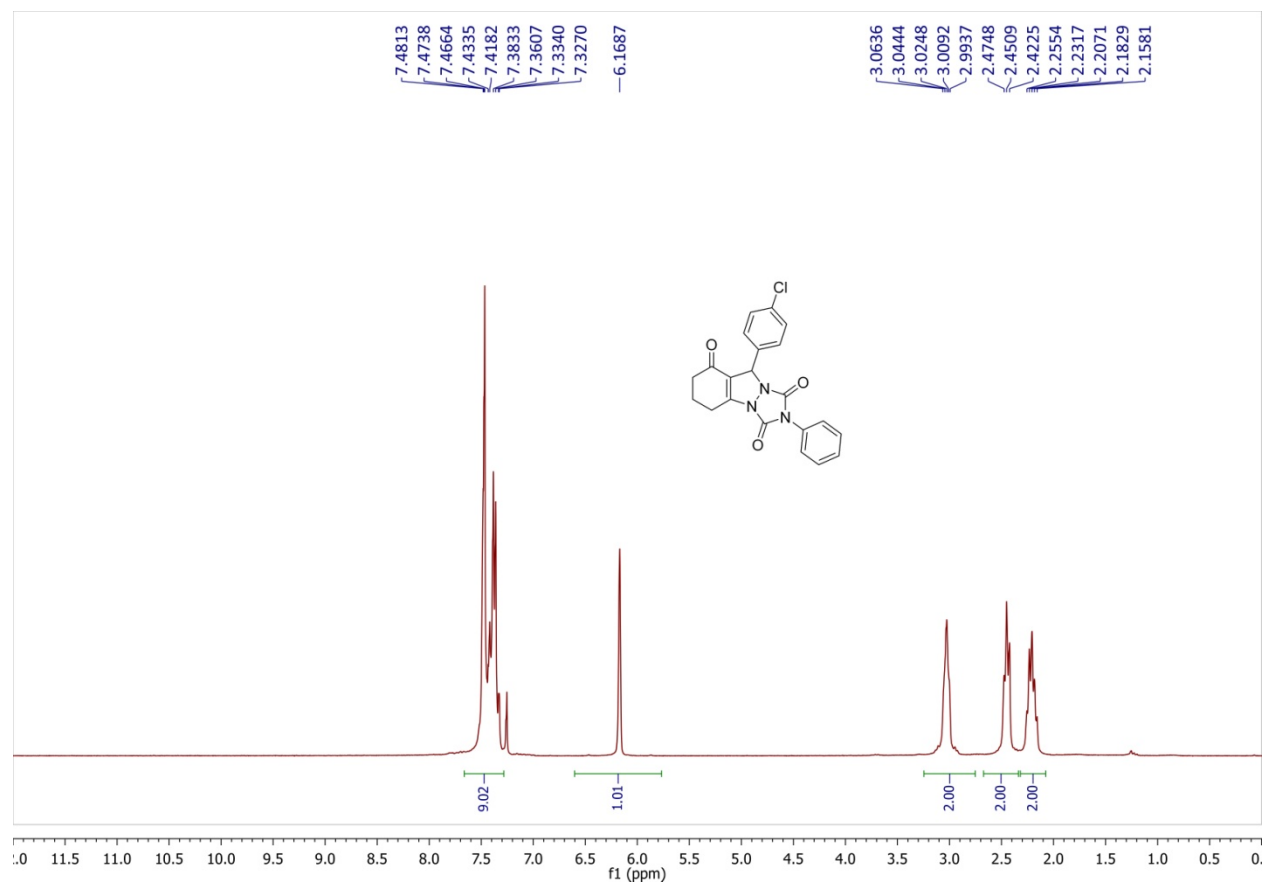
<sup>1</sup>H NMR of Compound 4n



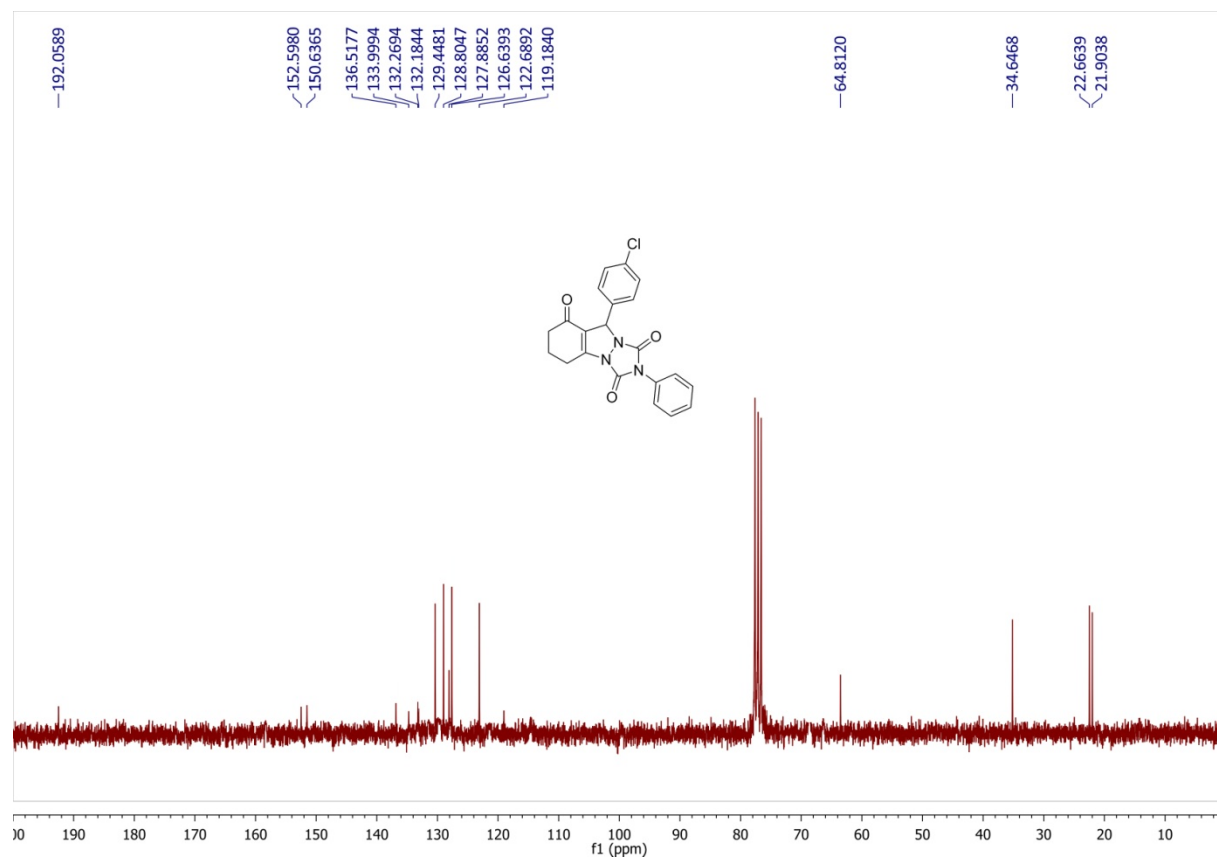
<sup>1</sup>H NMR of Compound 4r



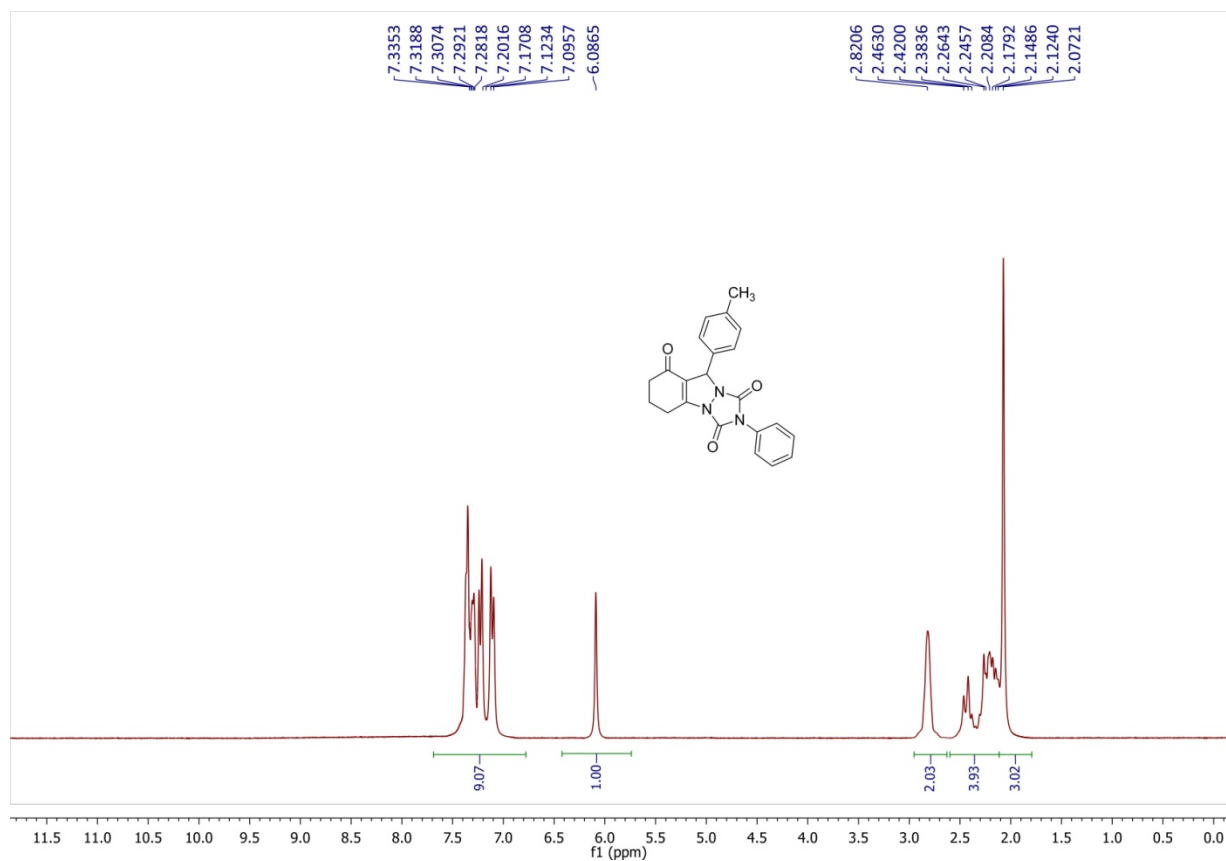
<sup>13</sup>C NMR of Compound 4r



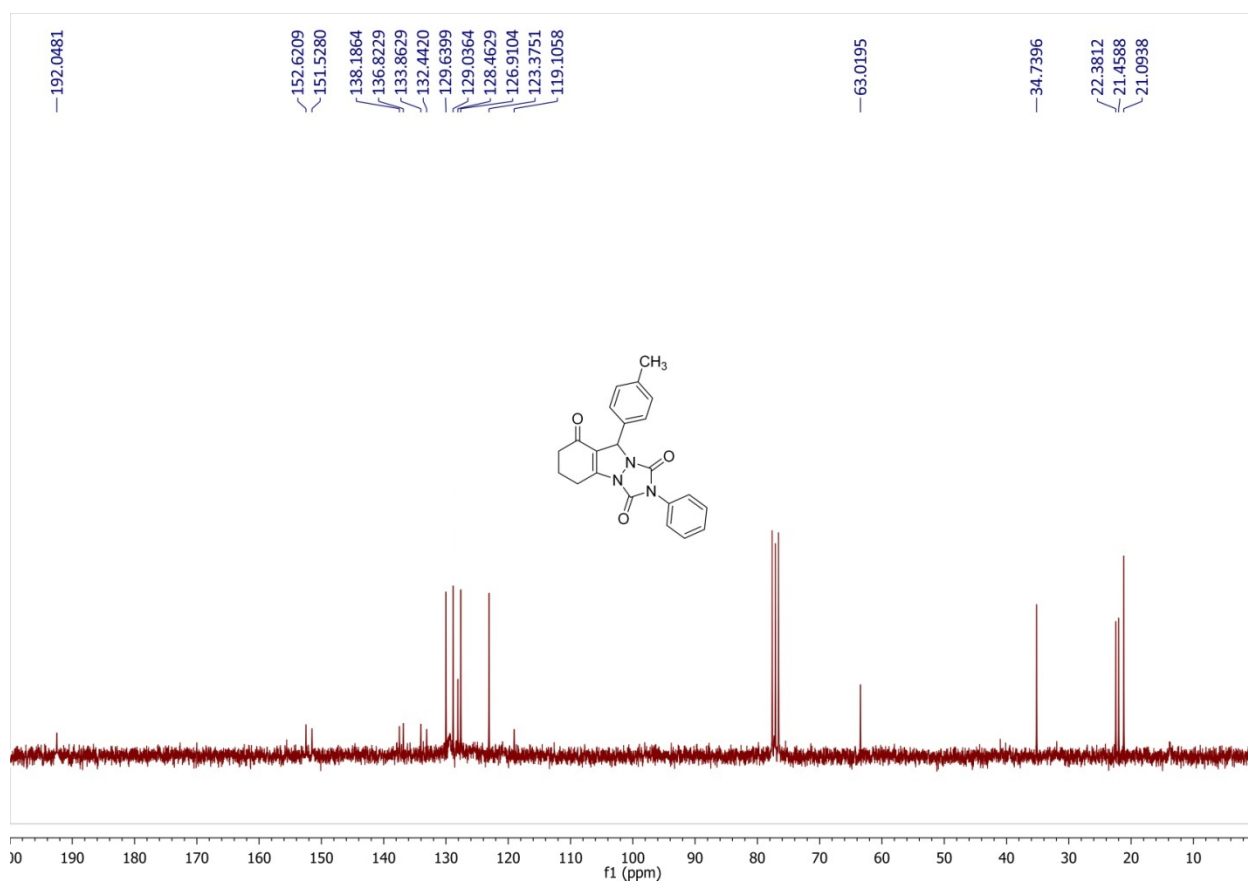
<sup>1</sup>H NMR of Compound 4s



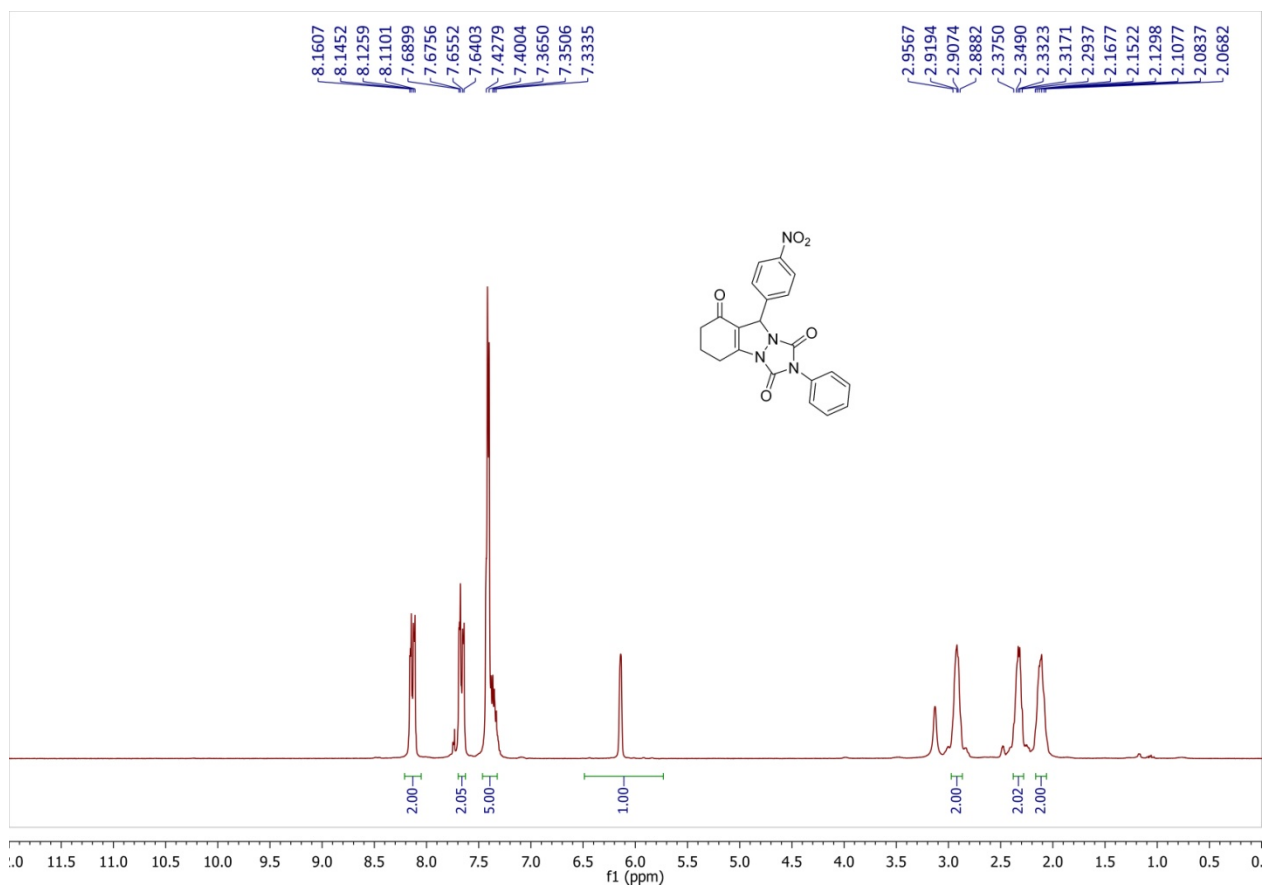
<sup>13</sup>C NMR of Compound 4s



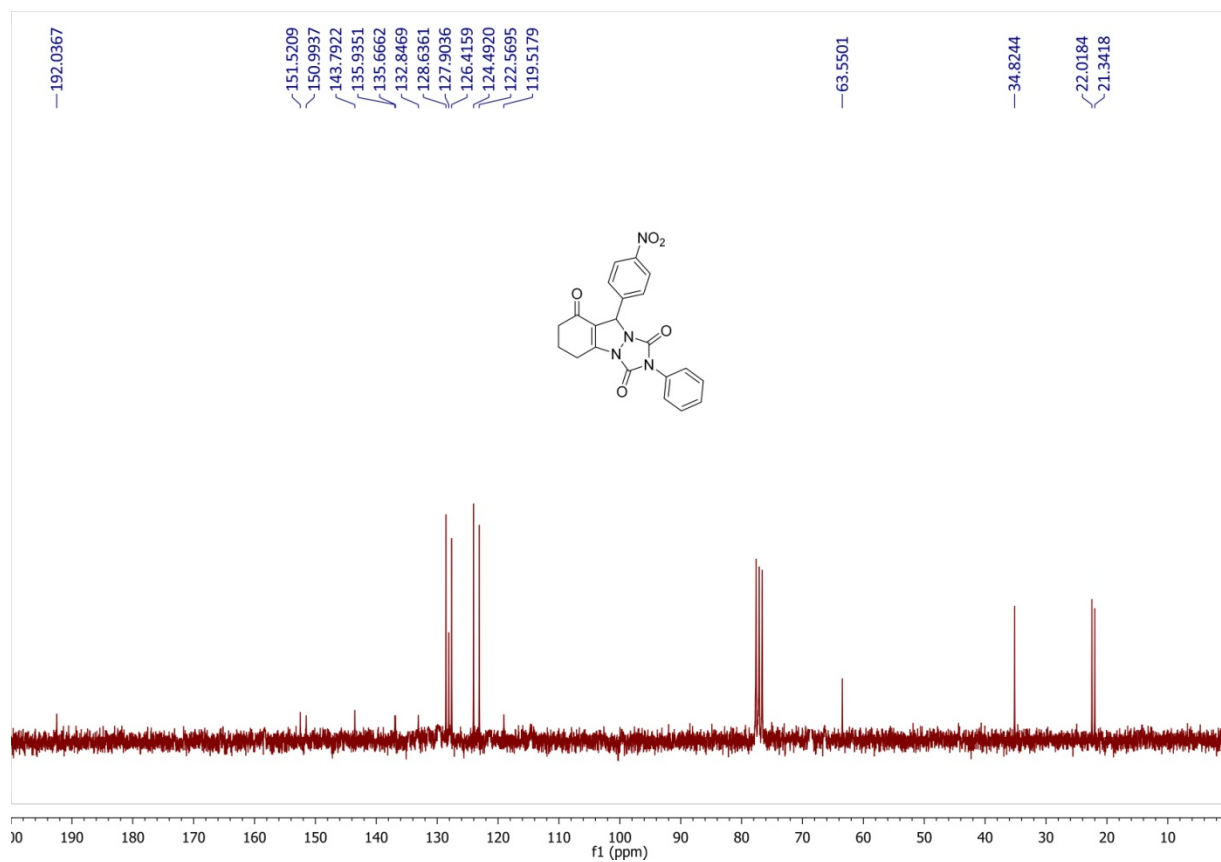
<sup>1</sup>H NMR of Compound 4t



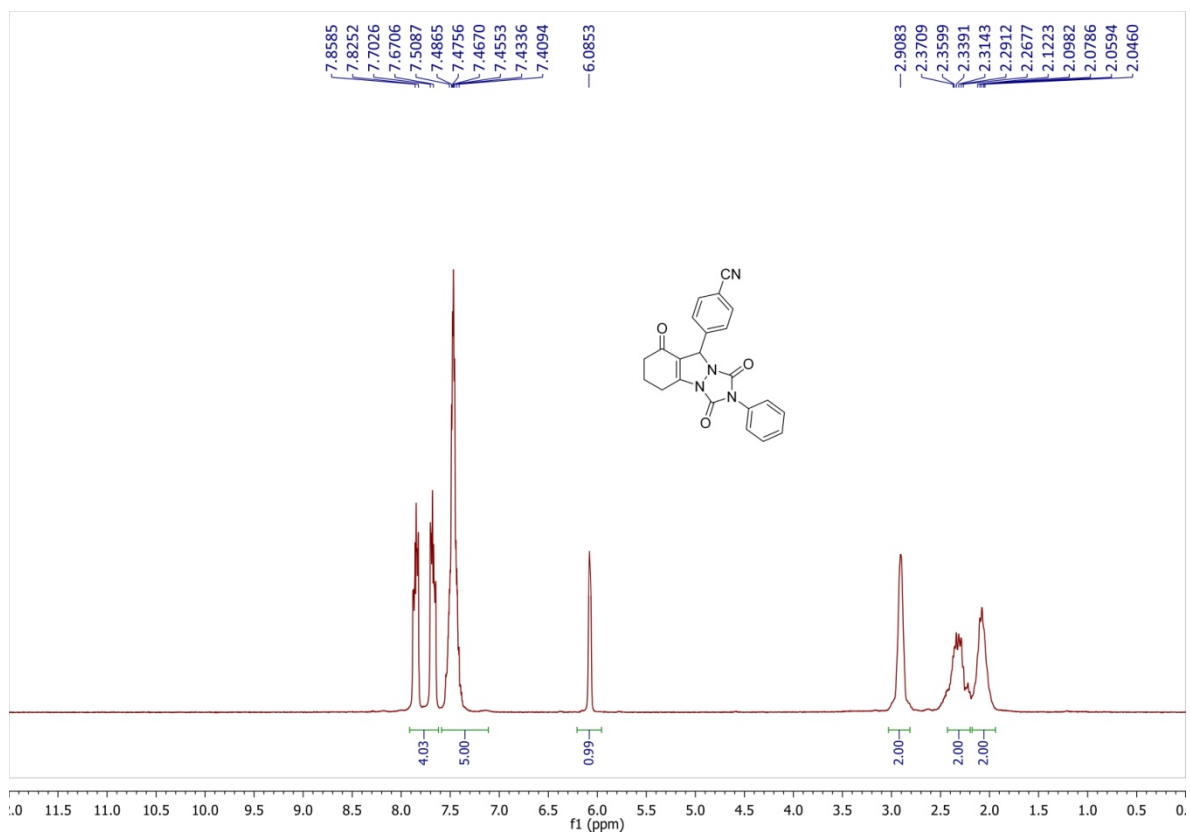
<sup>13</sup>C NMR of Compound 4t



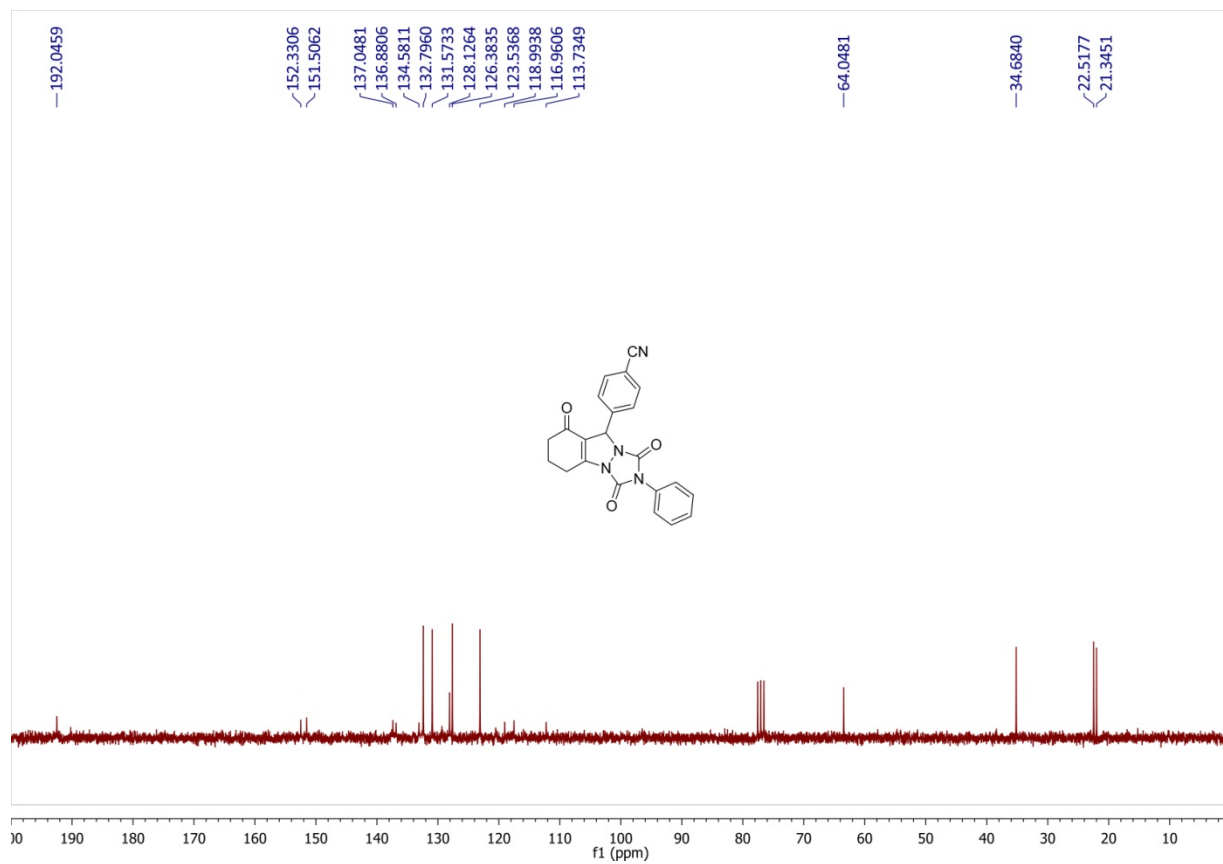
<sup>1</sup>H NMR of Compound 4u



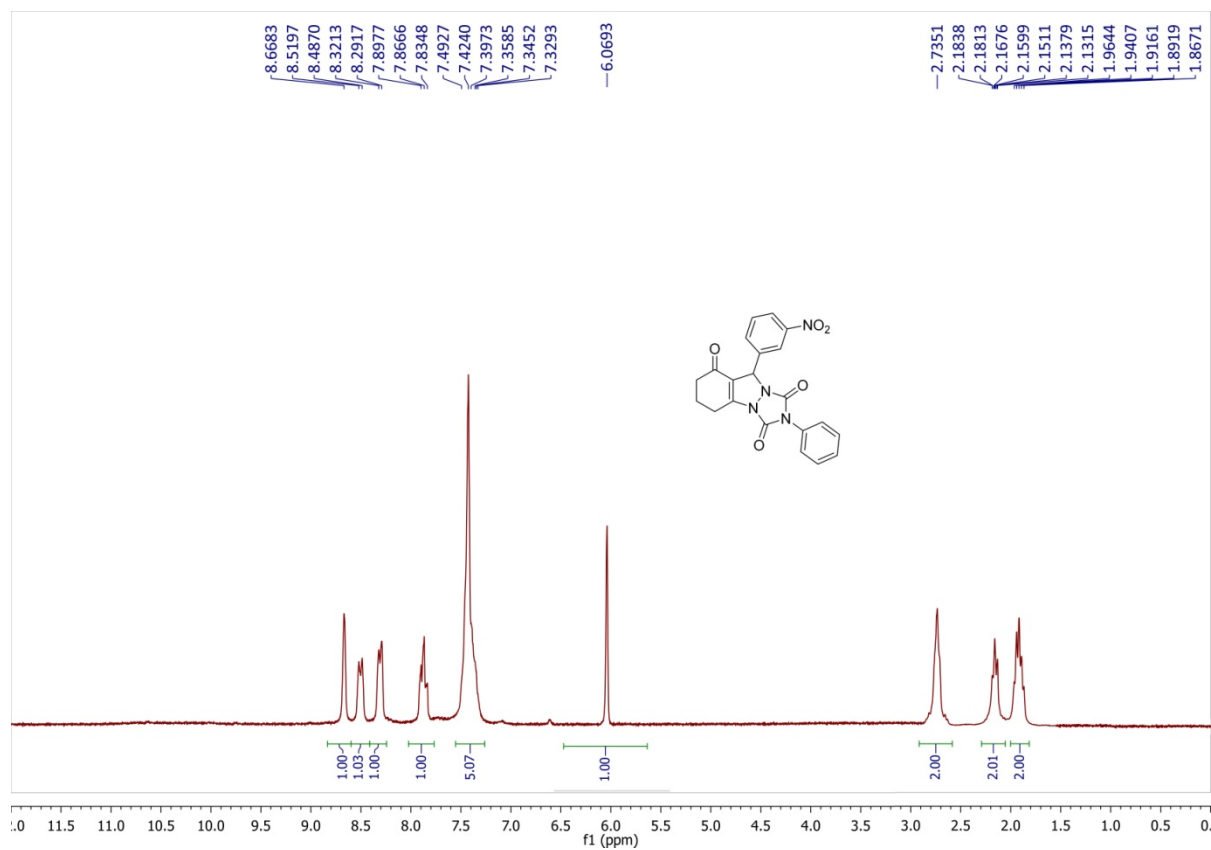
<sup>13</sup>C NMR of Compound 4u



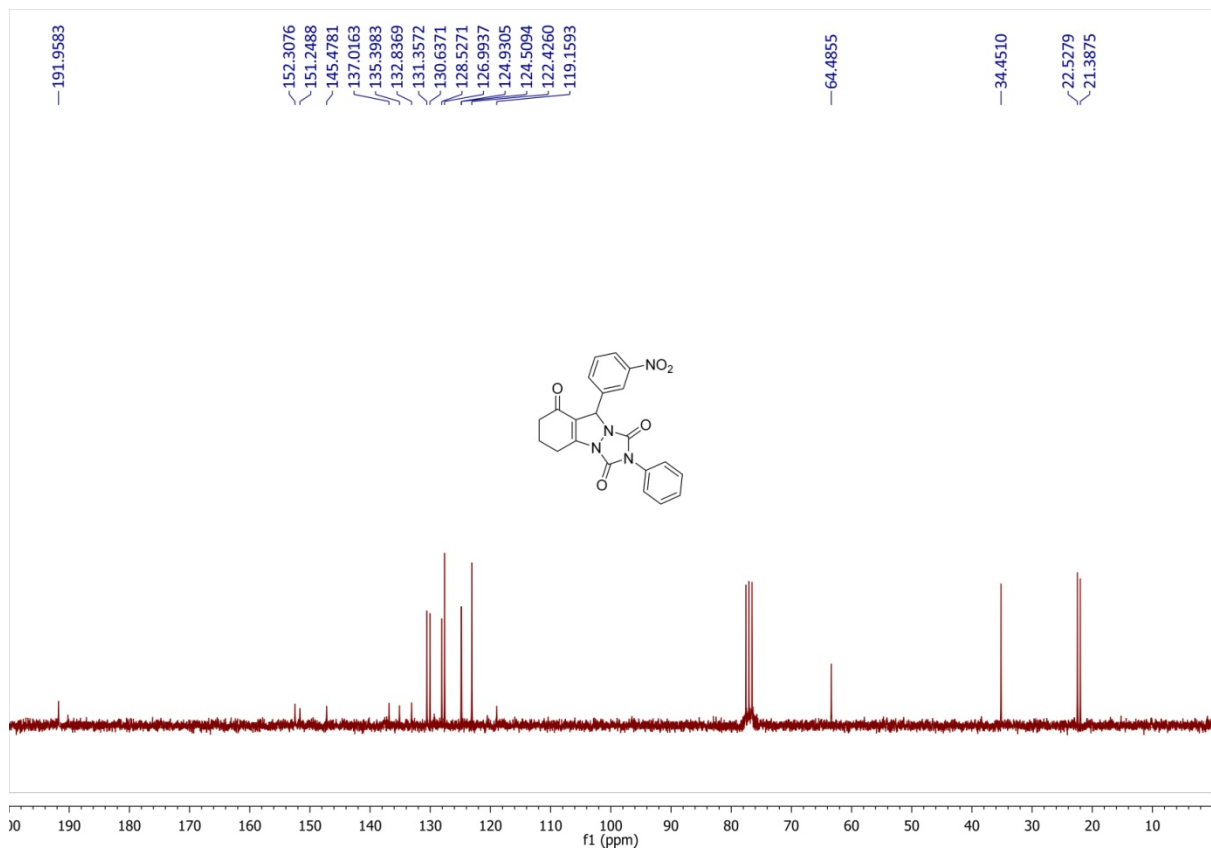
<sup>1</sup>H NMR of Compound 4v



<sup>13</sup>C NMR of Compound 4v



<sup>1</sup>H NMR of Compound 4w



<sup>13</sup>C NMR of Compound 4w