

Figure 1: IR Spectrum of compound 1

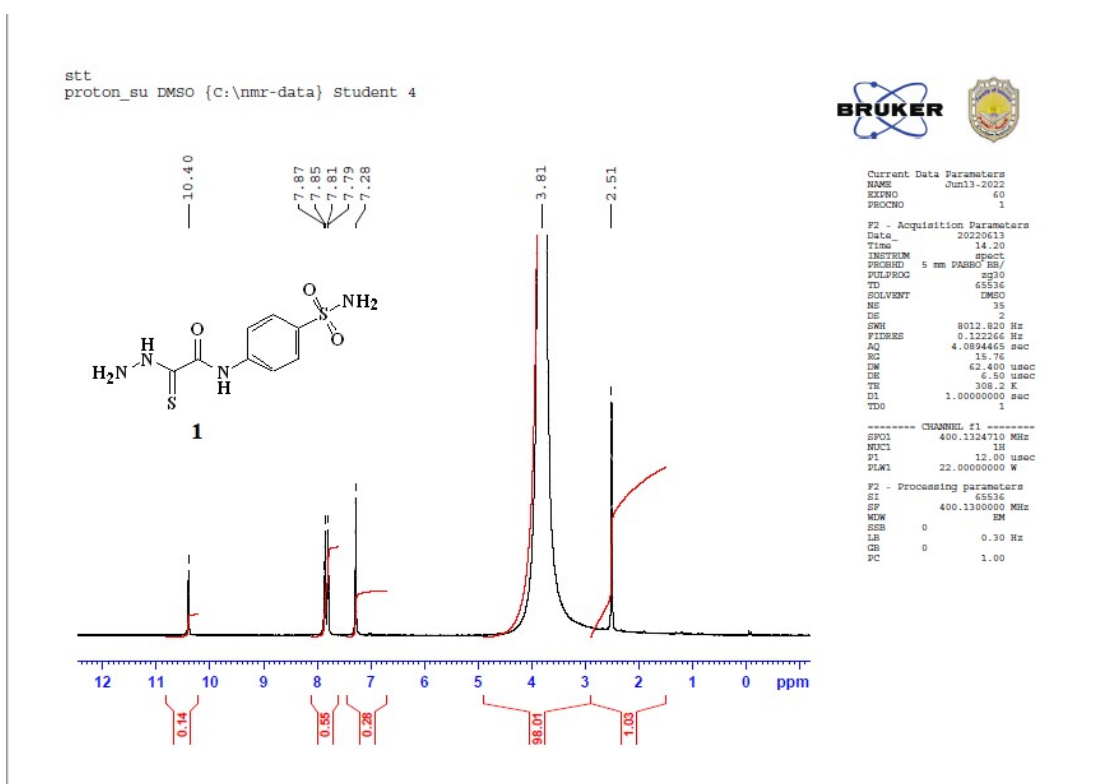
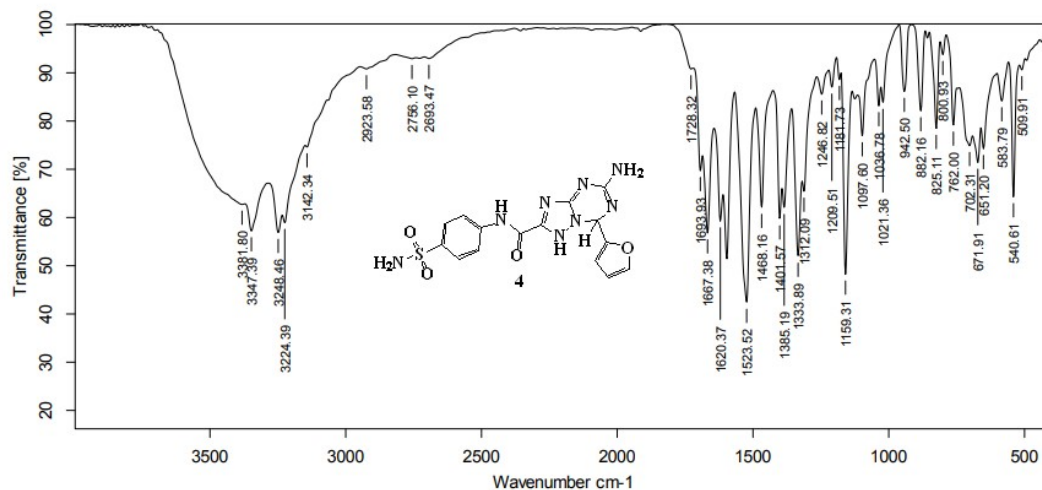


Figure 2: <sup>1</sup>H NMR Spectrum of compound 2



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Figure 3: IR Spectrum of compound 4

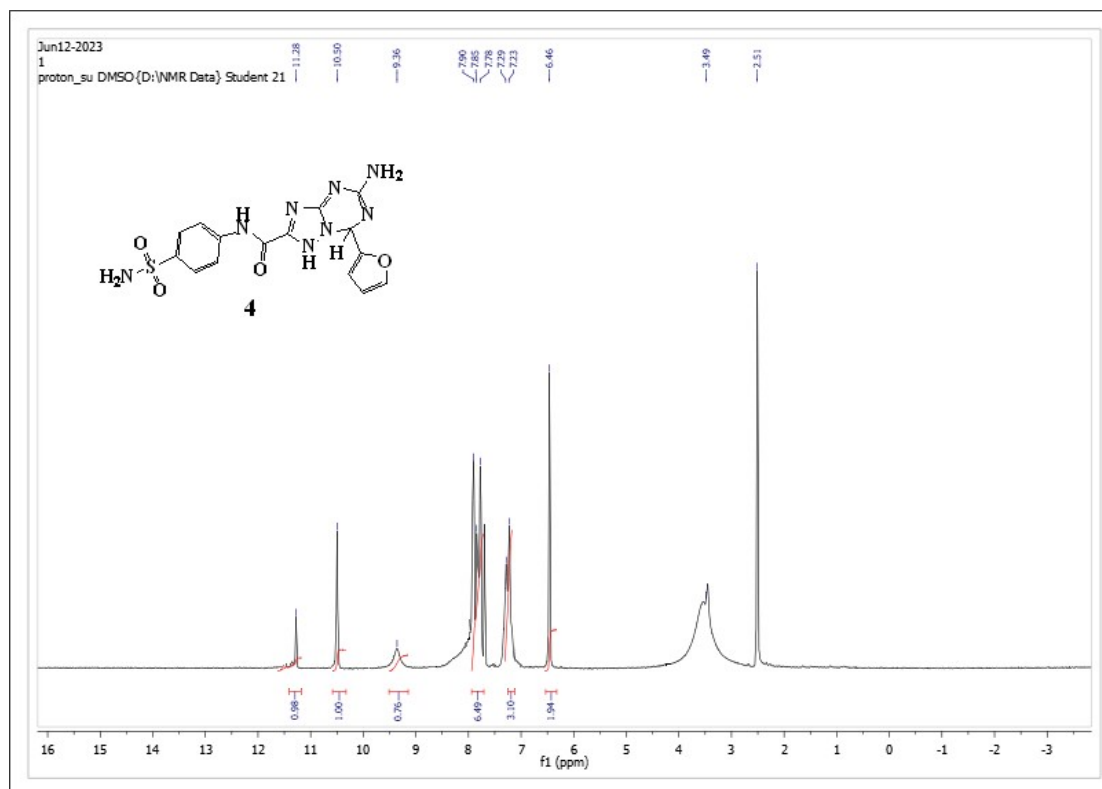


Figure 4: <sup>1</sup>H NMR Spectrum of compound 4

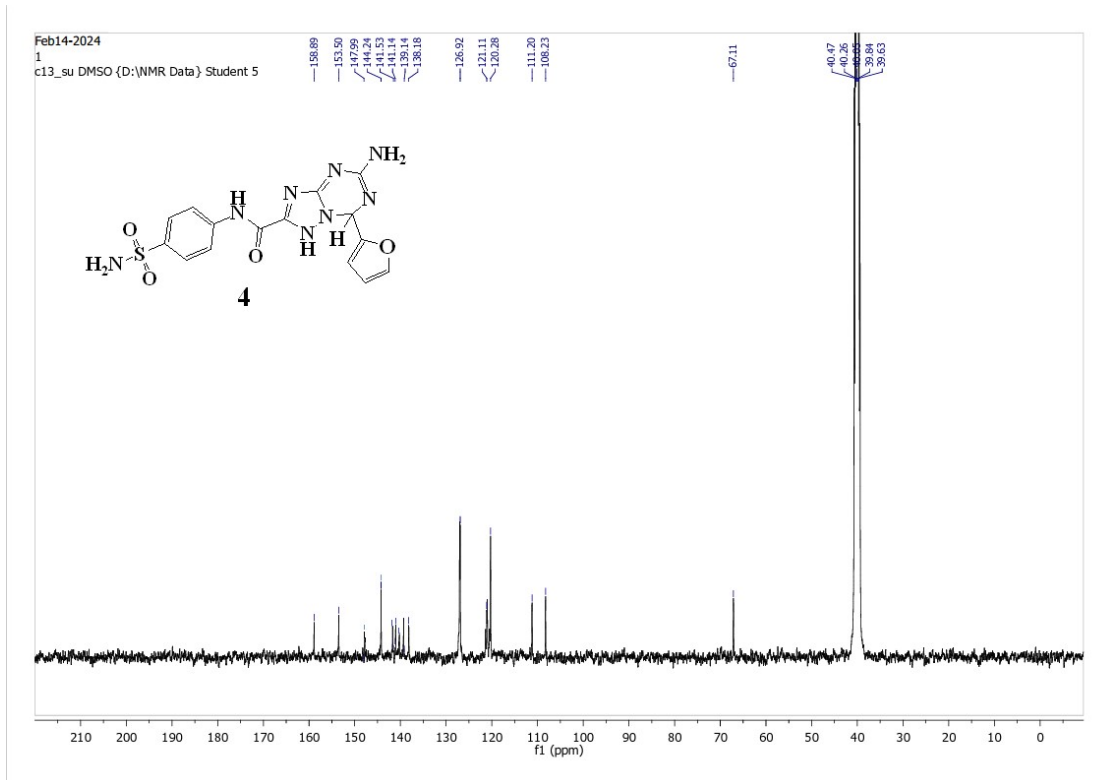


Figure 5:  $^{13}\text{C}$ NMR Spectrum of compound 4

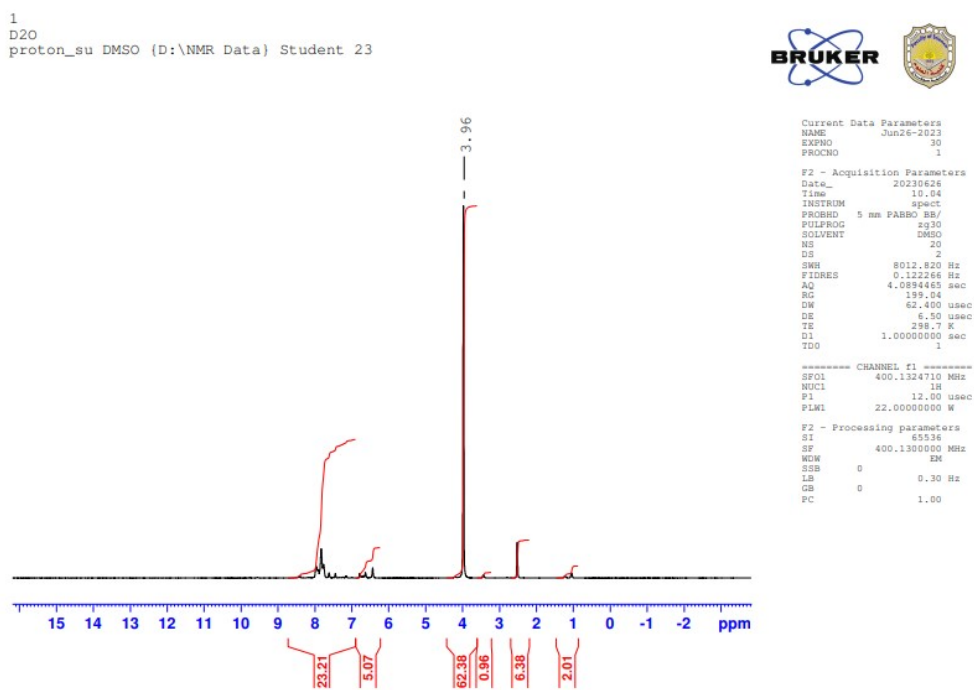
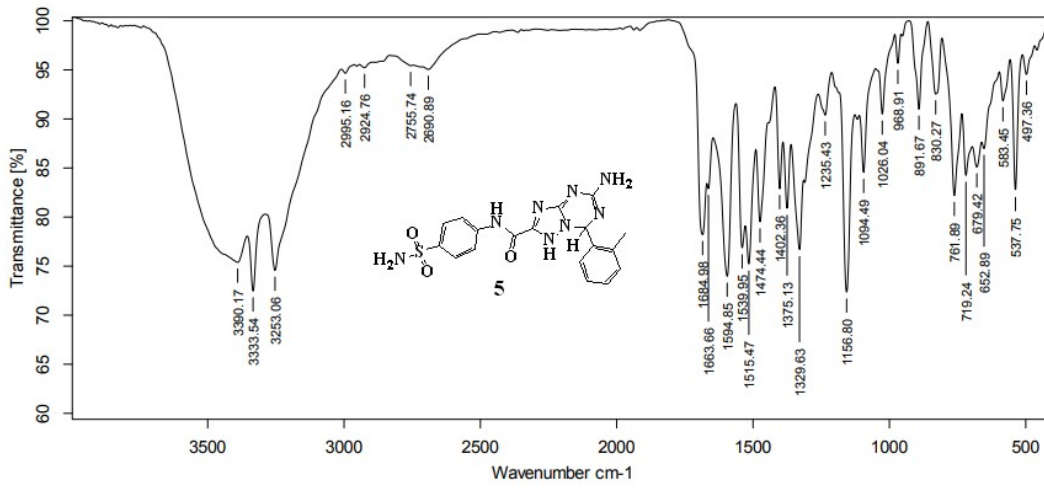


Figure 6:  $\text{D}_2\text{O}$  Spectrum of compound 4



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Figure 7: IR Spectrum of compound 5

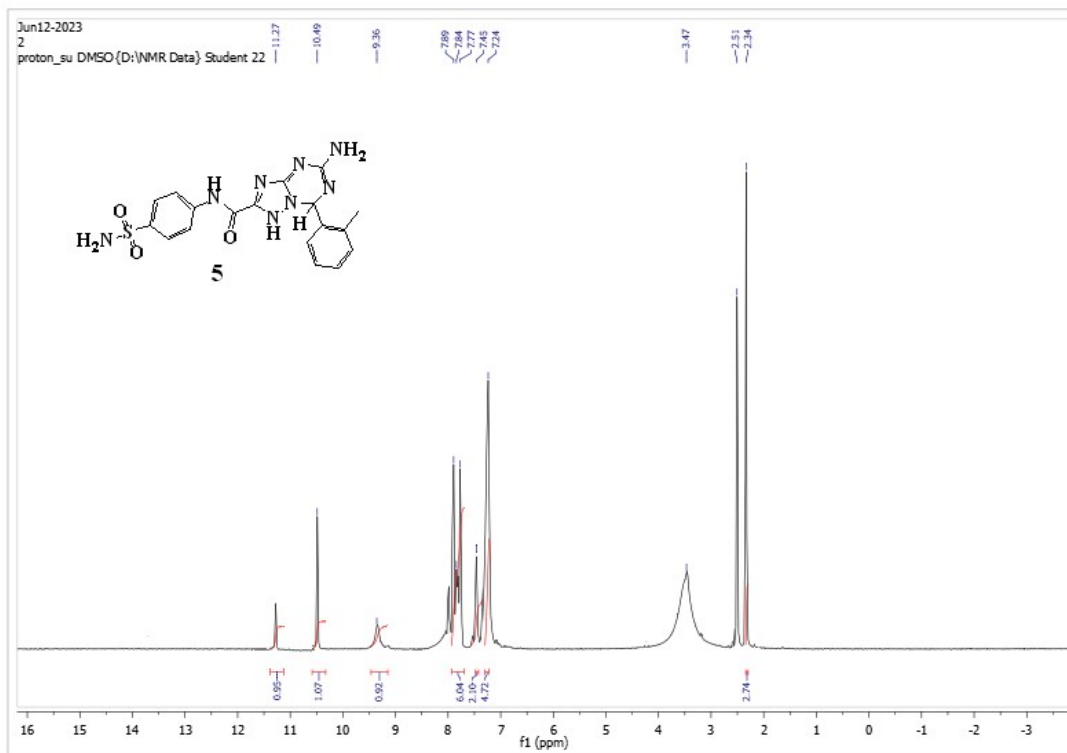


Figure 8: <sup>1</sup>H NMR Spectrum of compound 5

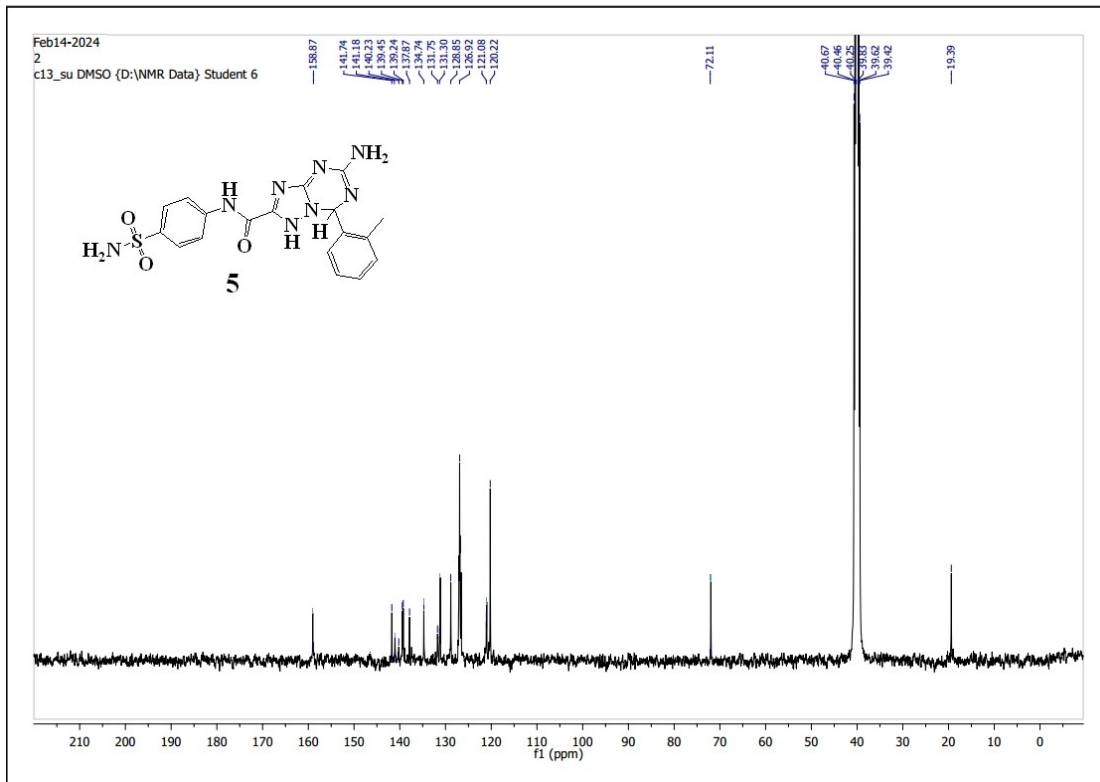


Figure 9:  $^{13}\text{C}$ NMR Spectrum of compound 5

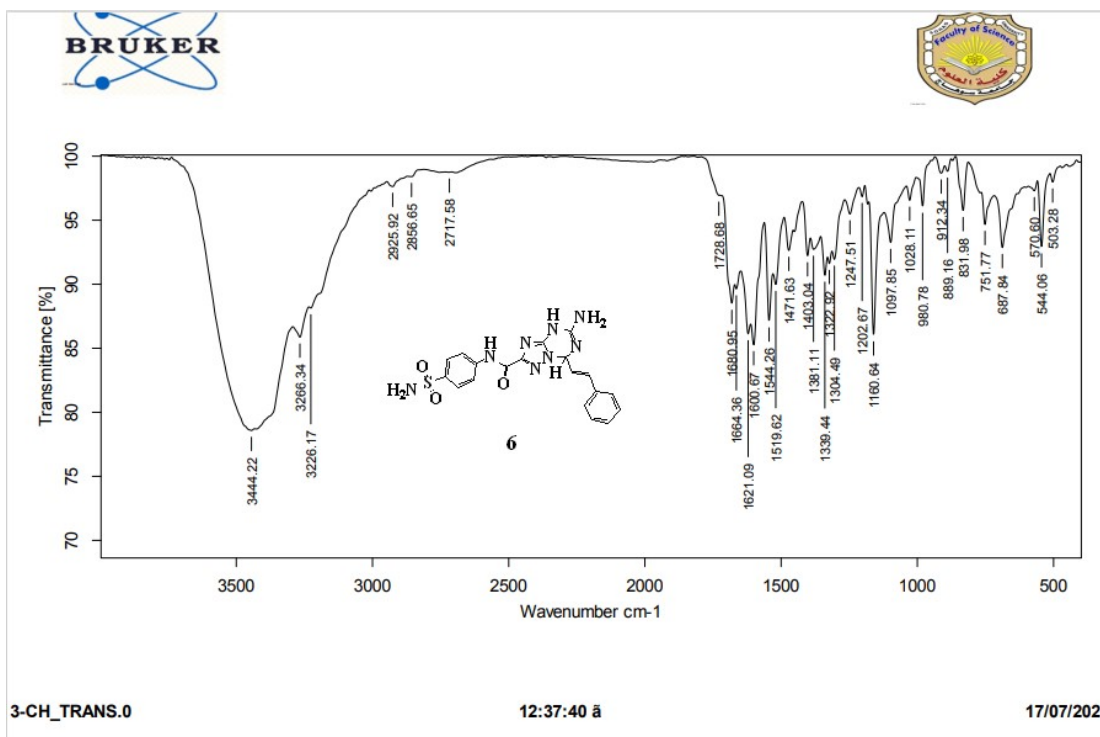


Figure 10: IR Spectrum of compound 6

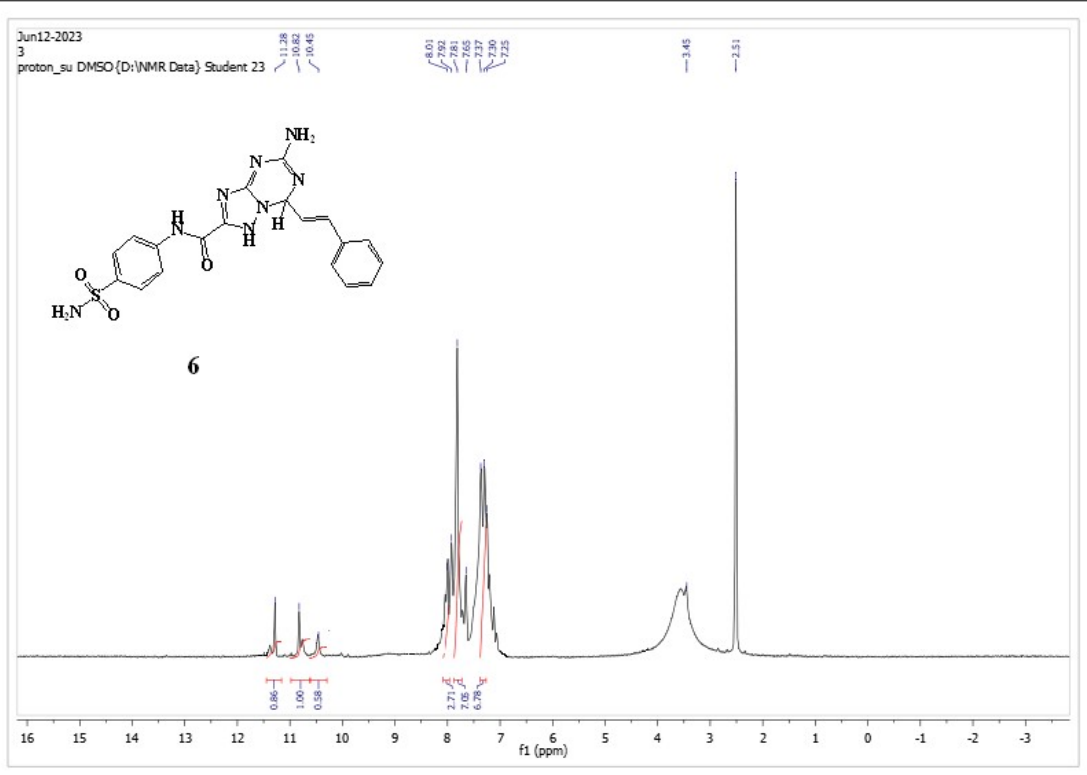


Figure 11:  $^1\text{H}$ NMR Spectrum of compound 6

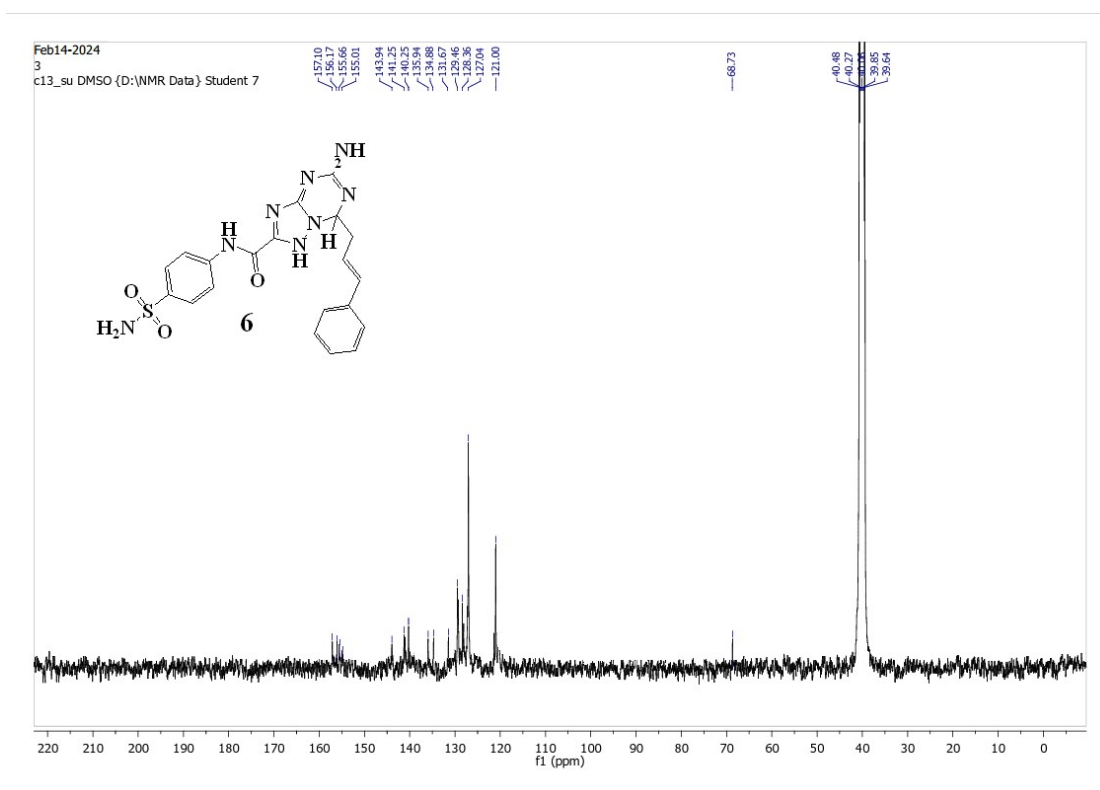
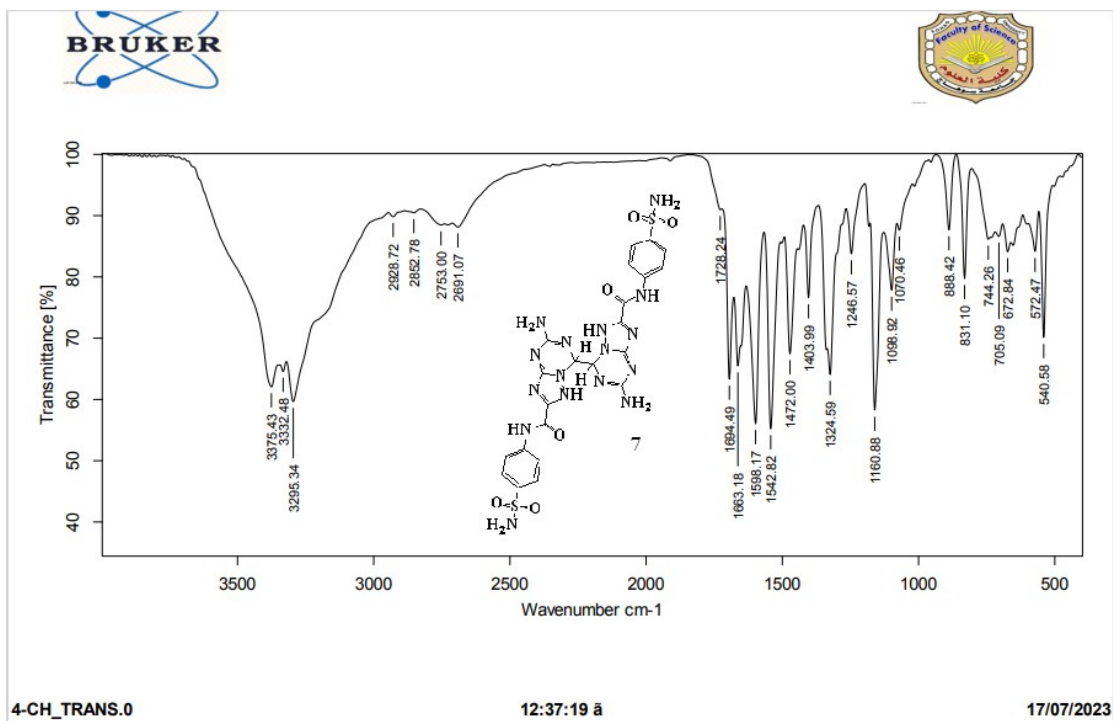
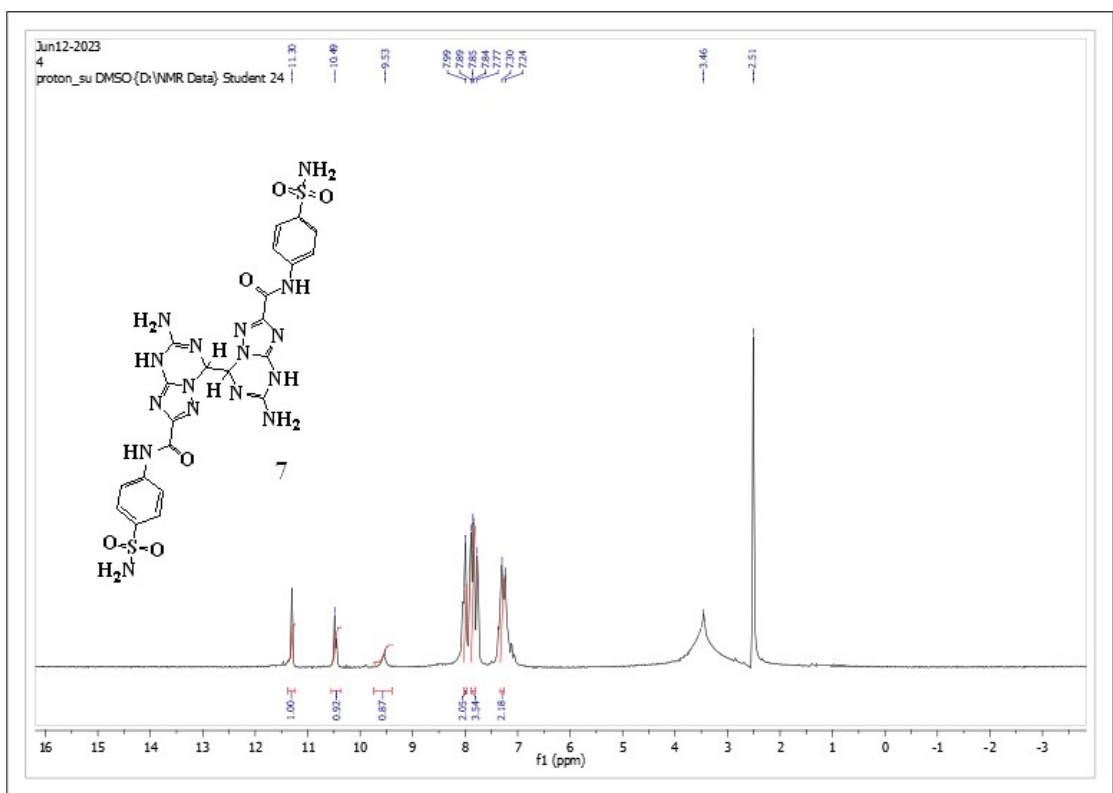


Figure 12:  $^{13}\text{C}$ NMR Spectrum of compound 6



**Figure 13: IR Spectrum of compound 7**



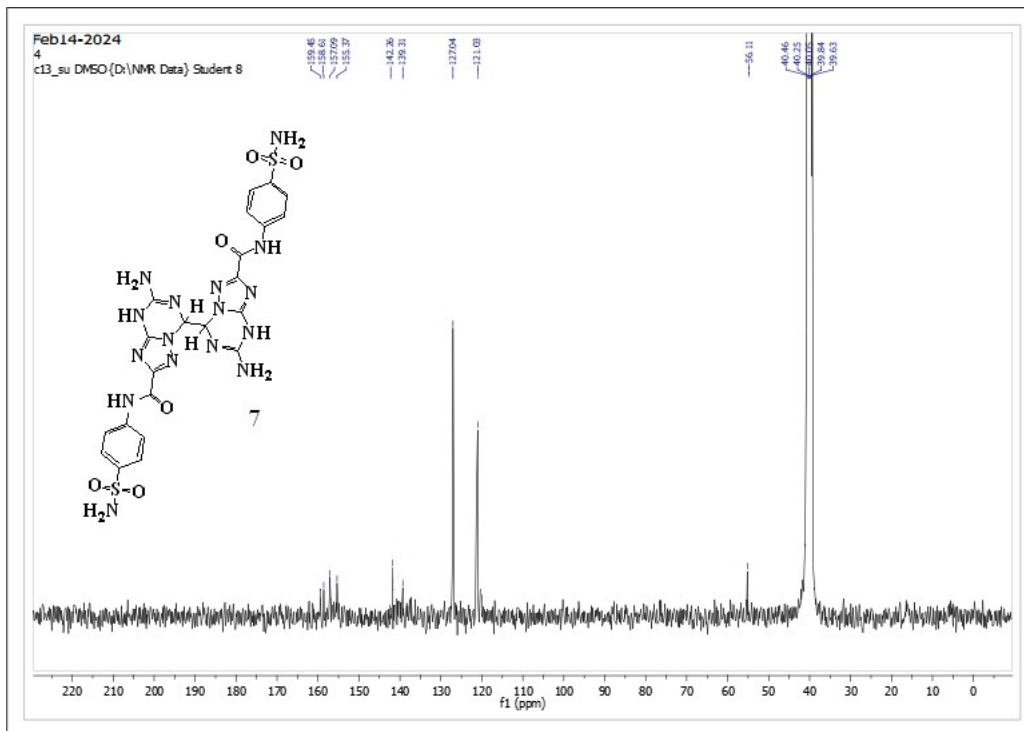


Figure 15:  $^{13}\text{C}$ -NMR Spectrum of compound 7

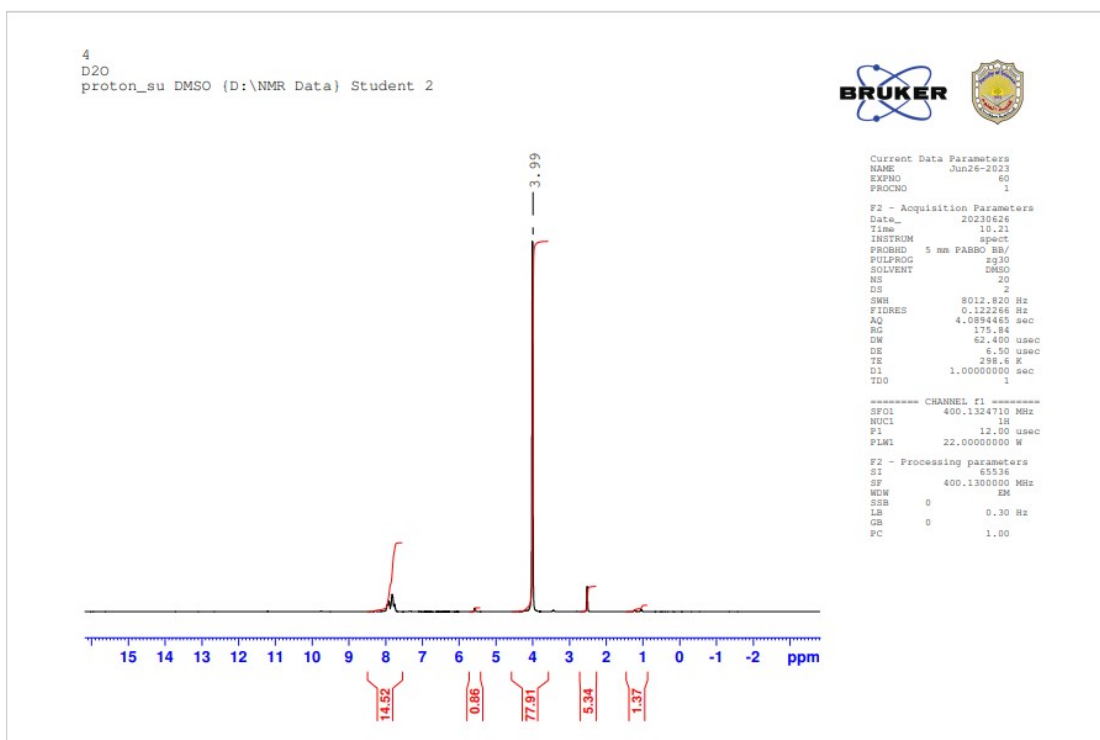
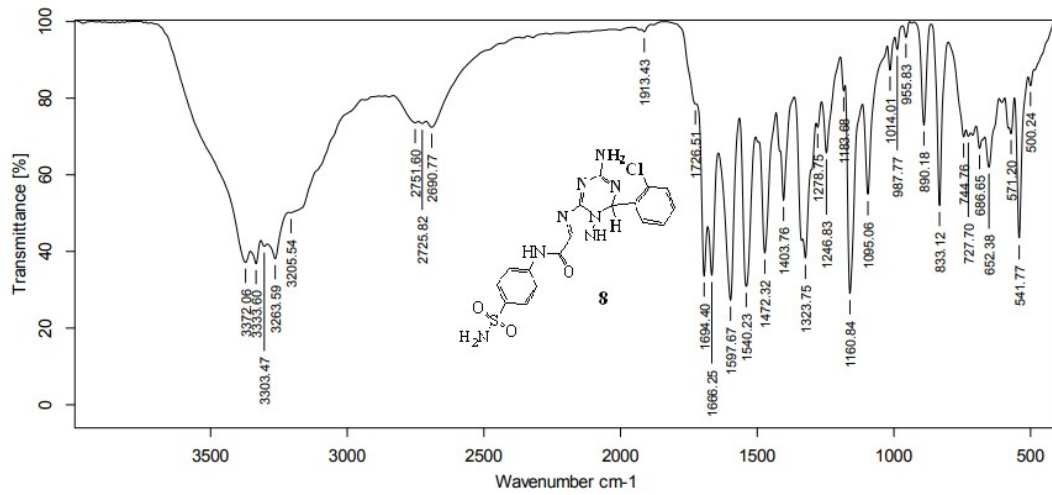


Figure 16:  $\text{D}_2\text{O}$  Spectrum of compound 8



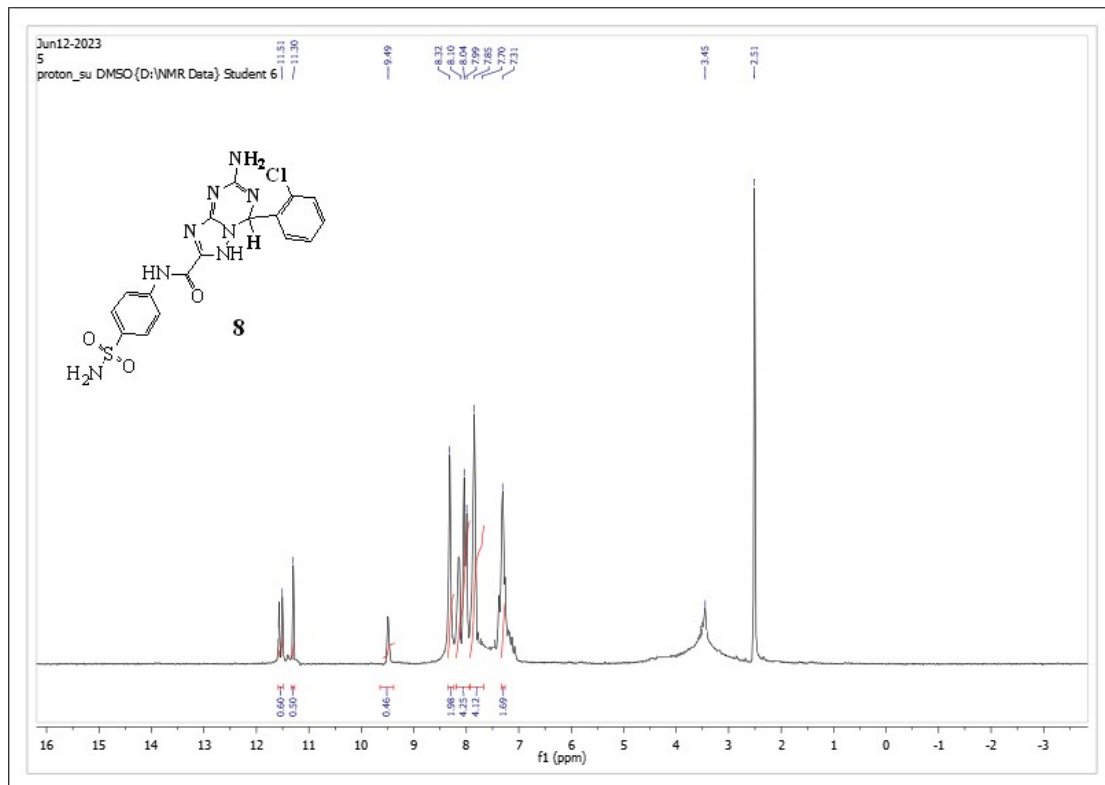


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**Figure 17: IR Spectrum of compound 8**



**Figure 18: <sup>1</sup>H NMR Spectrum of compound 8**

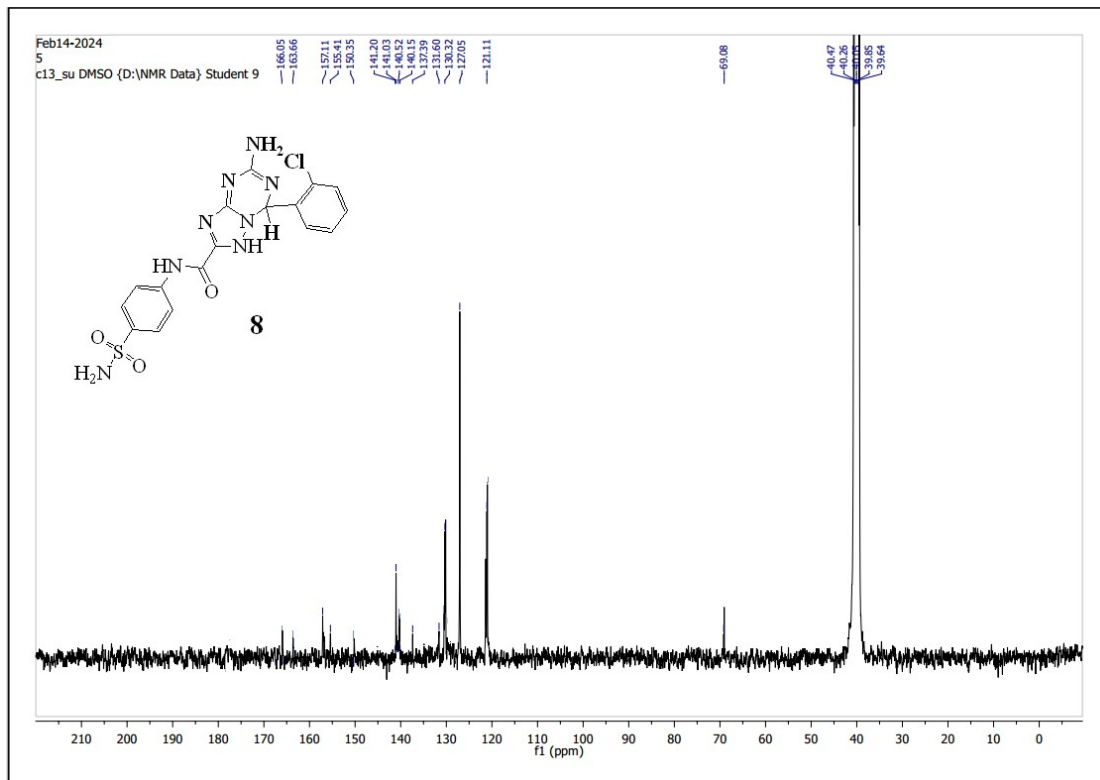


Figure 19:  $^{13}\text{C}$ NMR Spectrum of compound 8

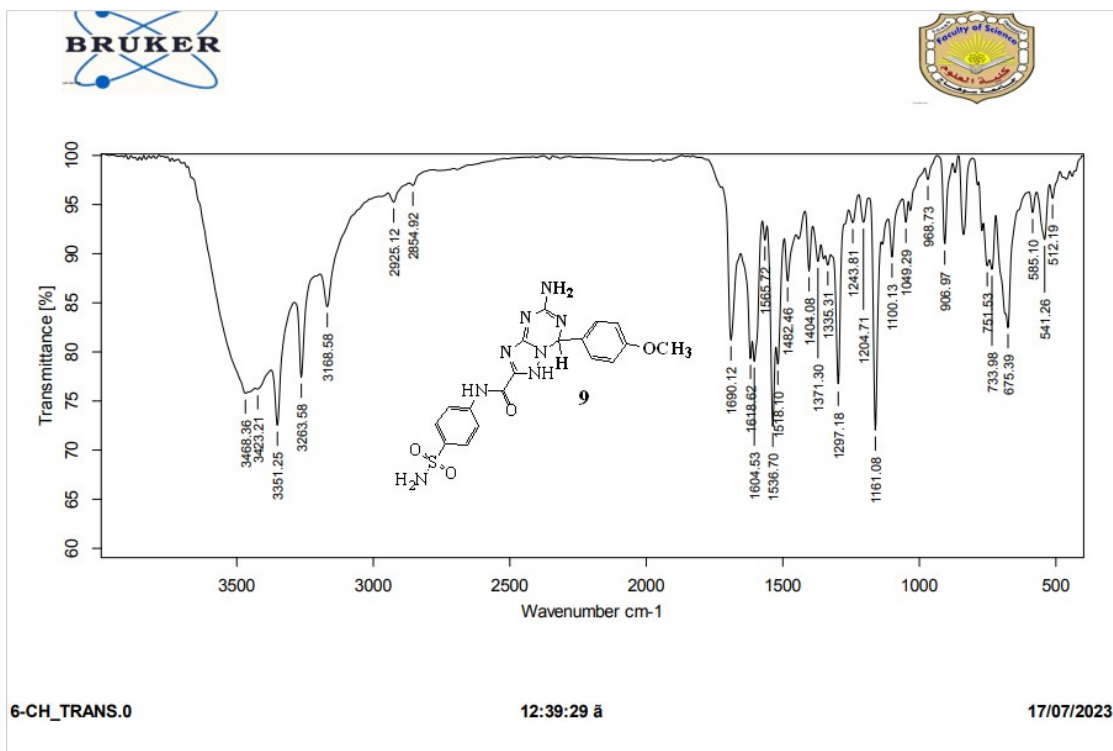
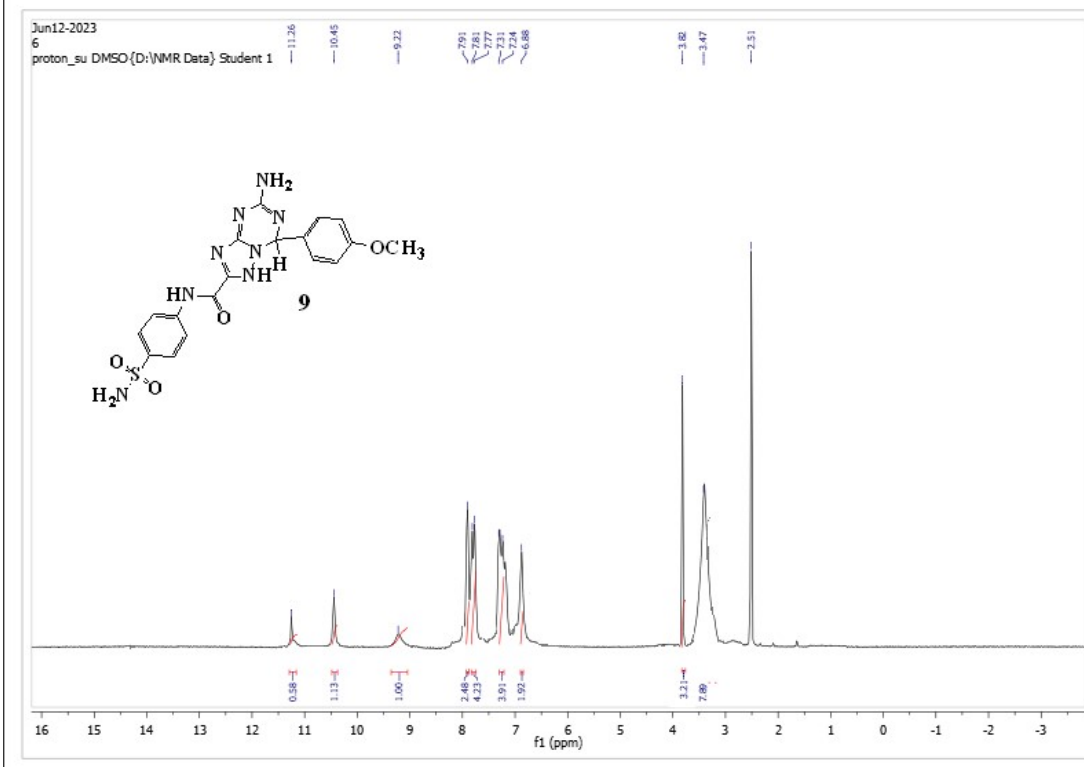
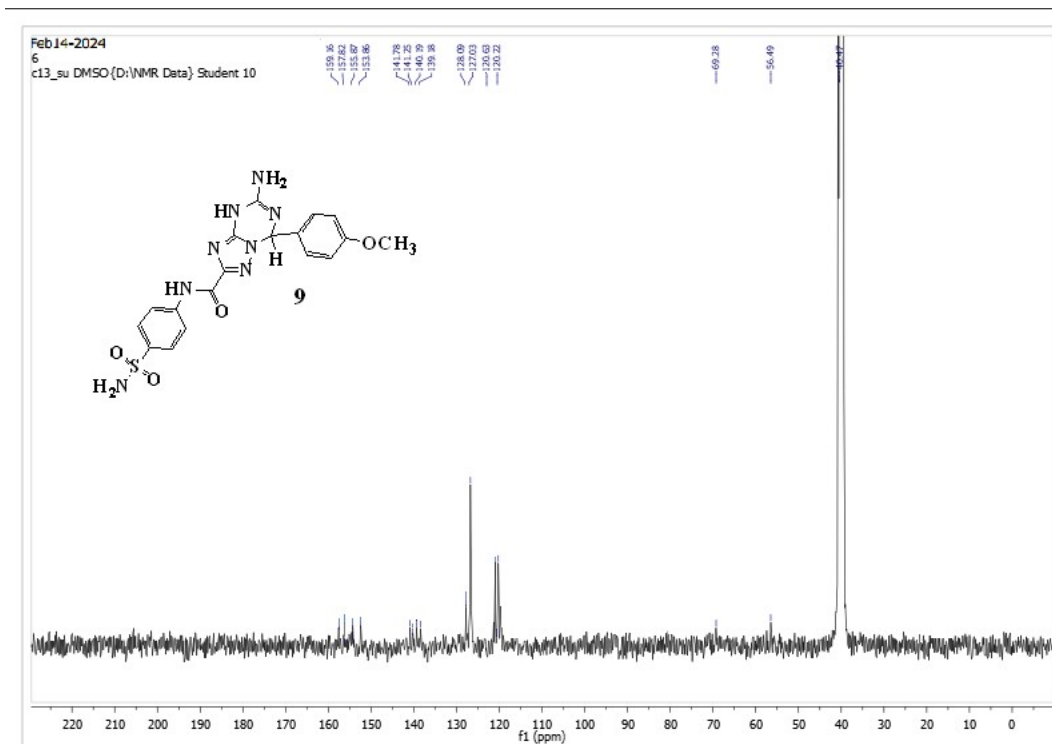


Figure 20: IR Spectrum of compound 9



**Figure 21:**  $^1\text{H}$ NMR Spectrum of compound 9



**Figure 22:**  $^{13}\text{C}$ NMR Spectrum of compound 9

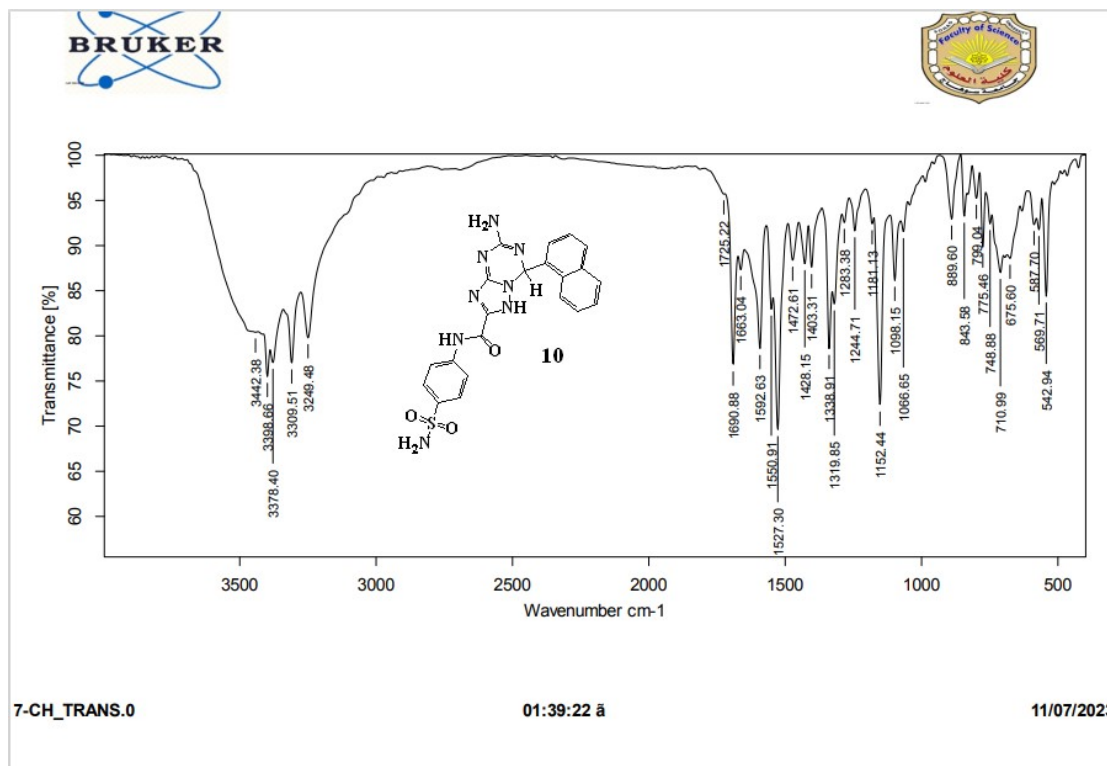


Figure 23: IR Spectrum of compound 10

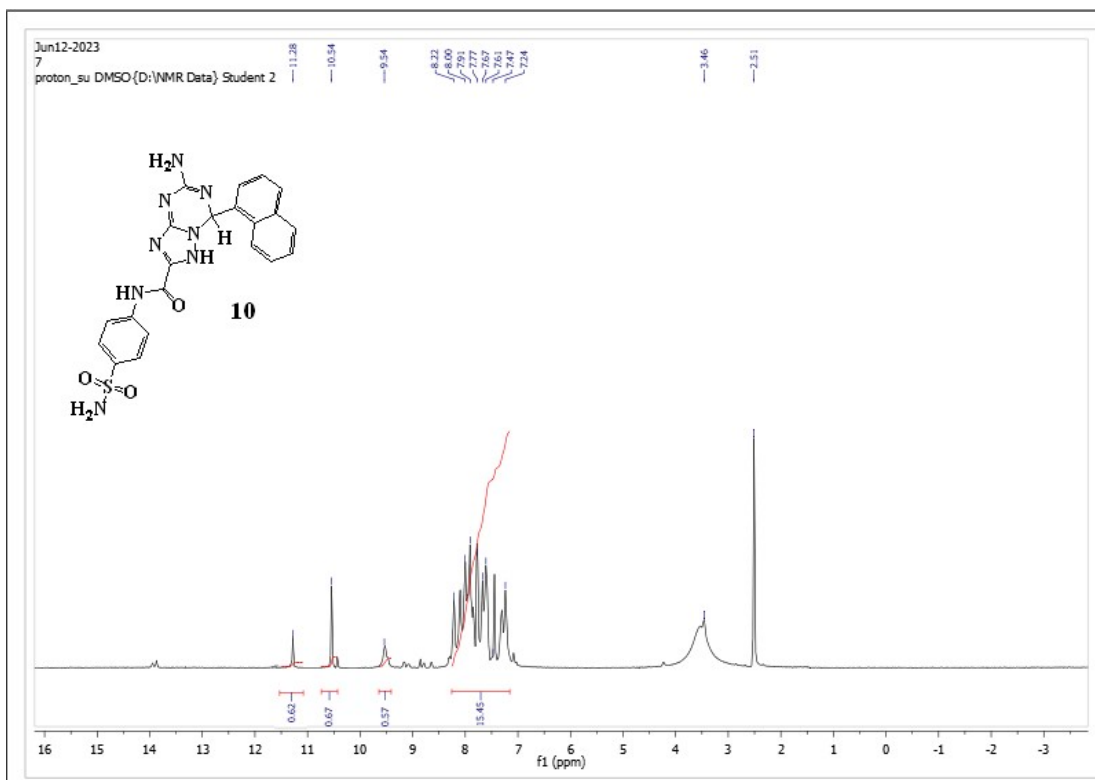


Figure 24: <sup>1</sup>H NMR Spectrum of compound 10

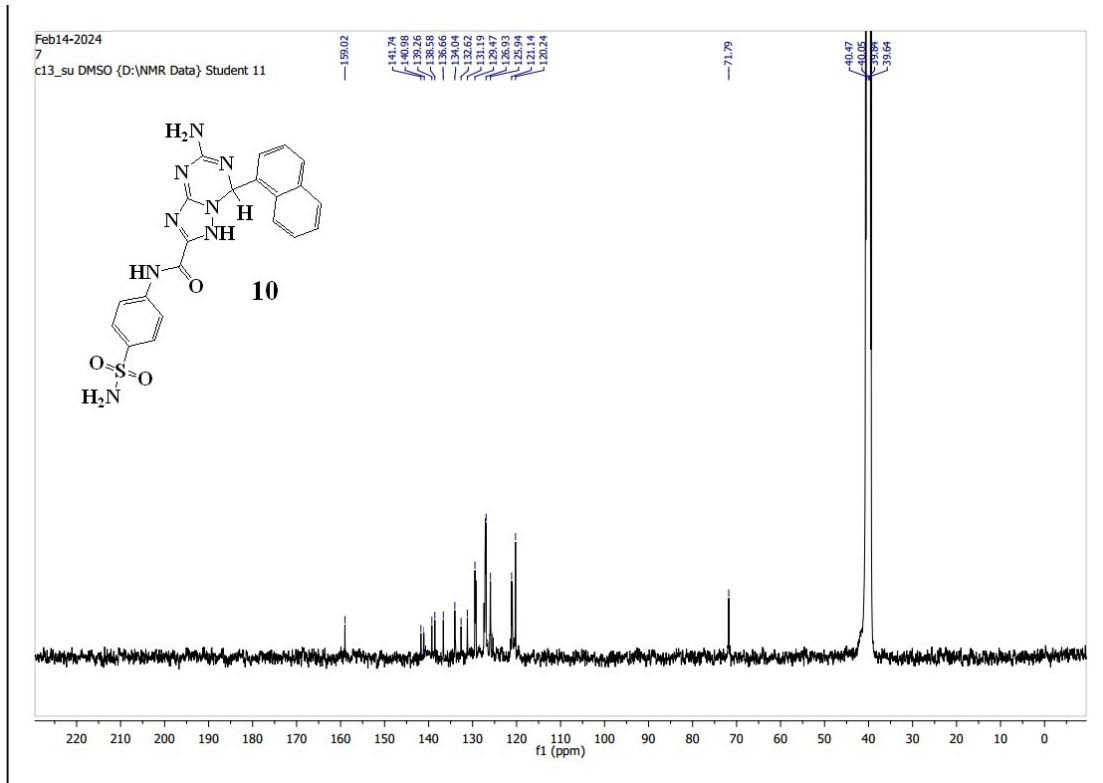


Figure 25:  $^{13}\text{C}$ NMR Spectrum of compound 10

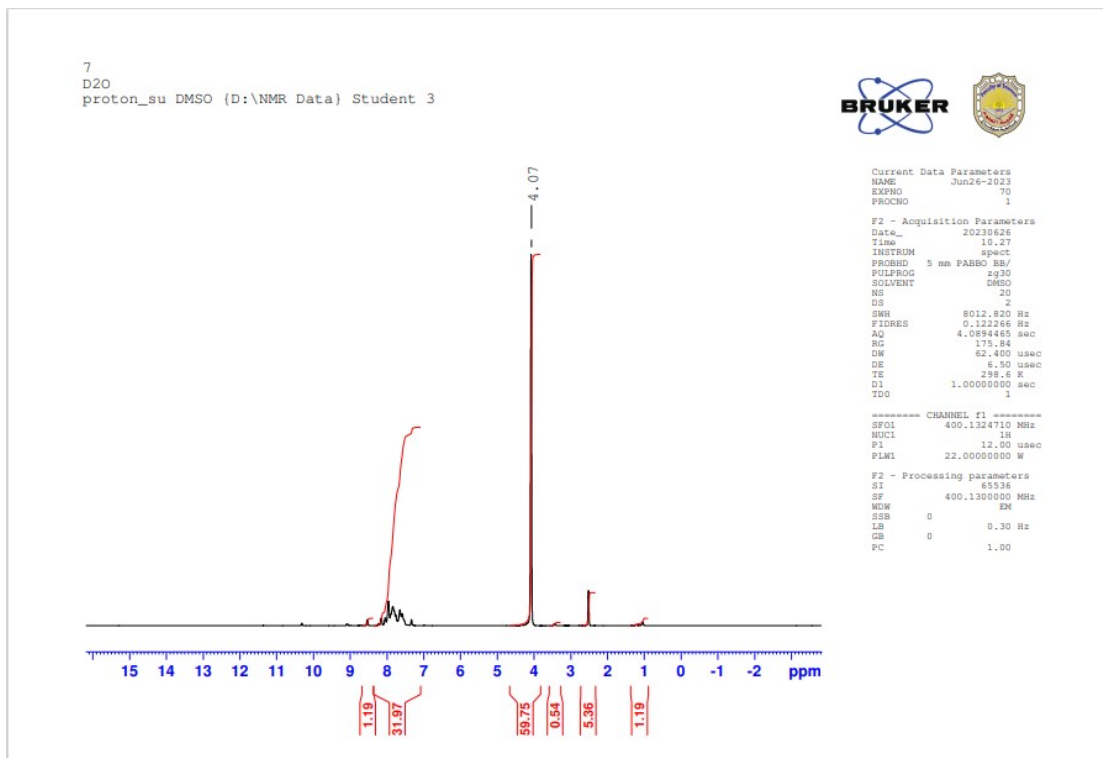
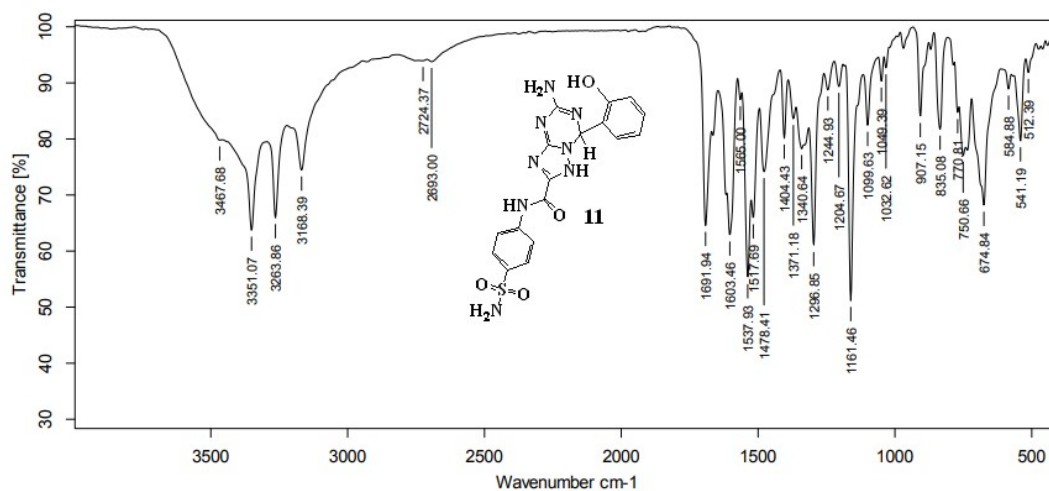


Figure 26:  $\text{D}_2\text{O}$  Spectrum of compound 10

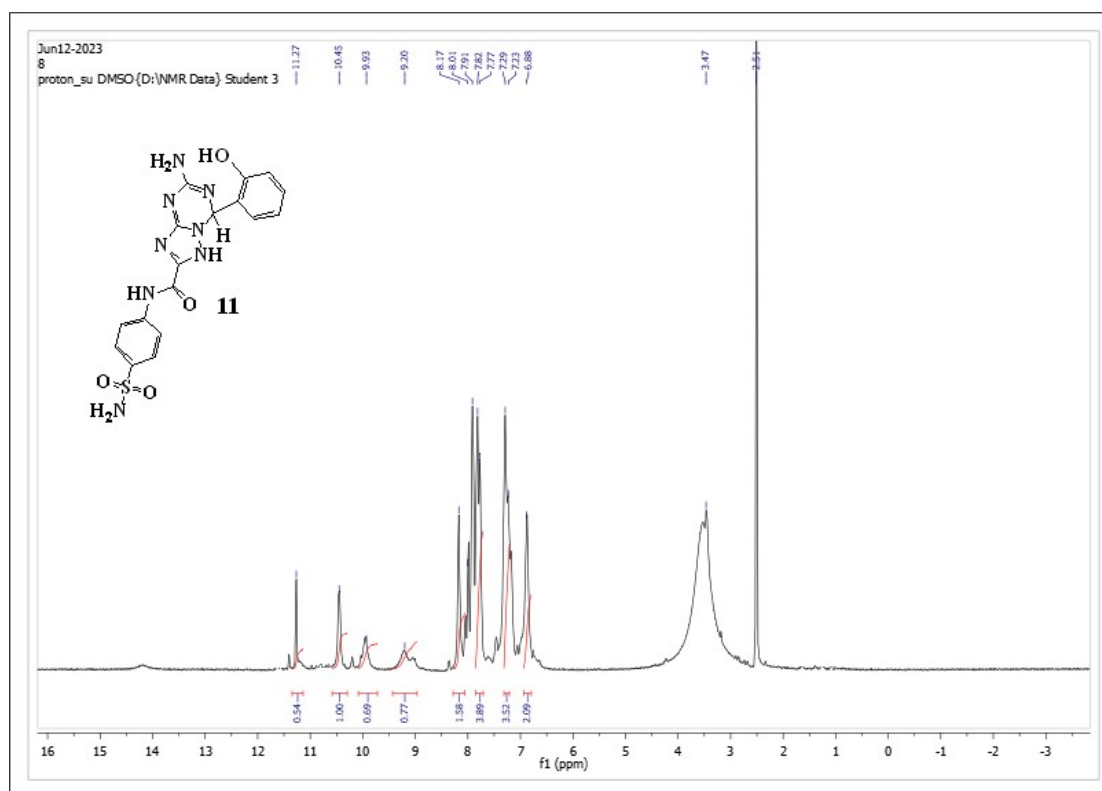


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Figure 27: IR Spectrum of compound 11

Figure 28: <sup>1</sup>H NMR Spectrum of compound 11

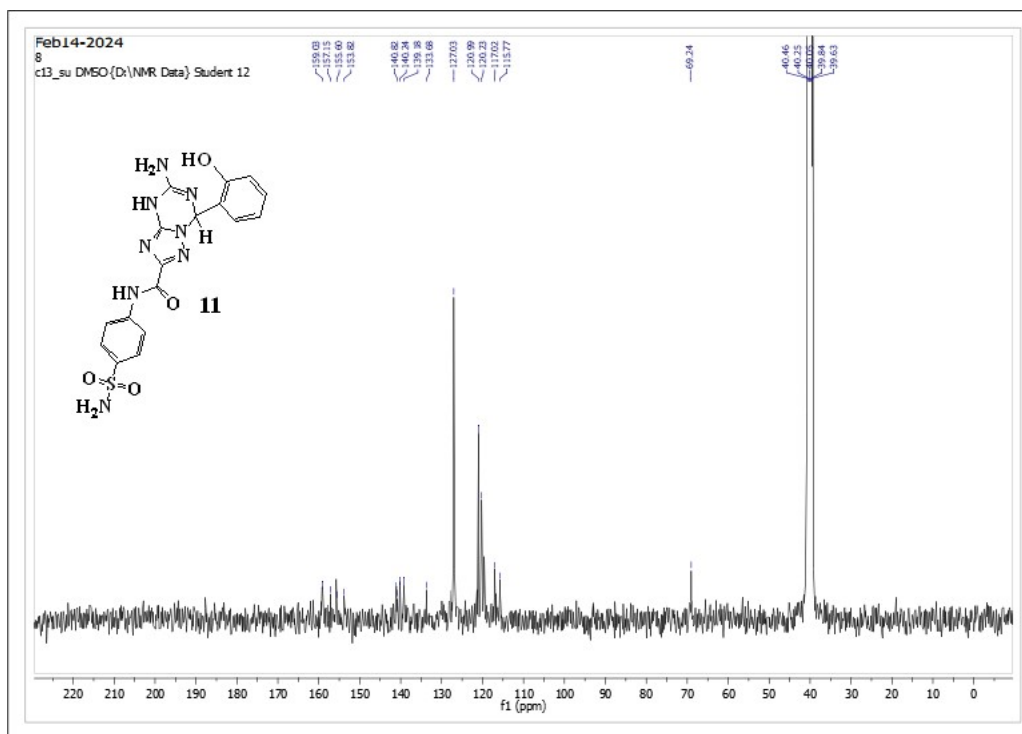


Figure 29:  $^{13}\text{C}$ NMR Spectrum of compound 11

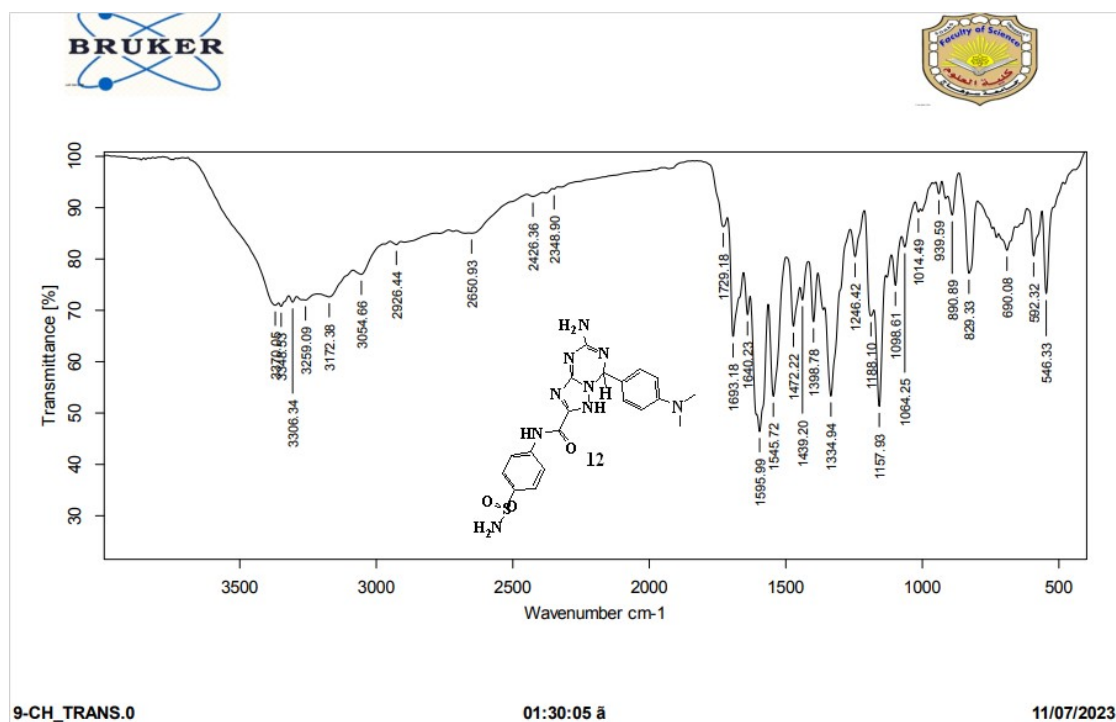


Figure 30: IR Spectrum of compound 12

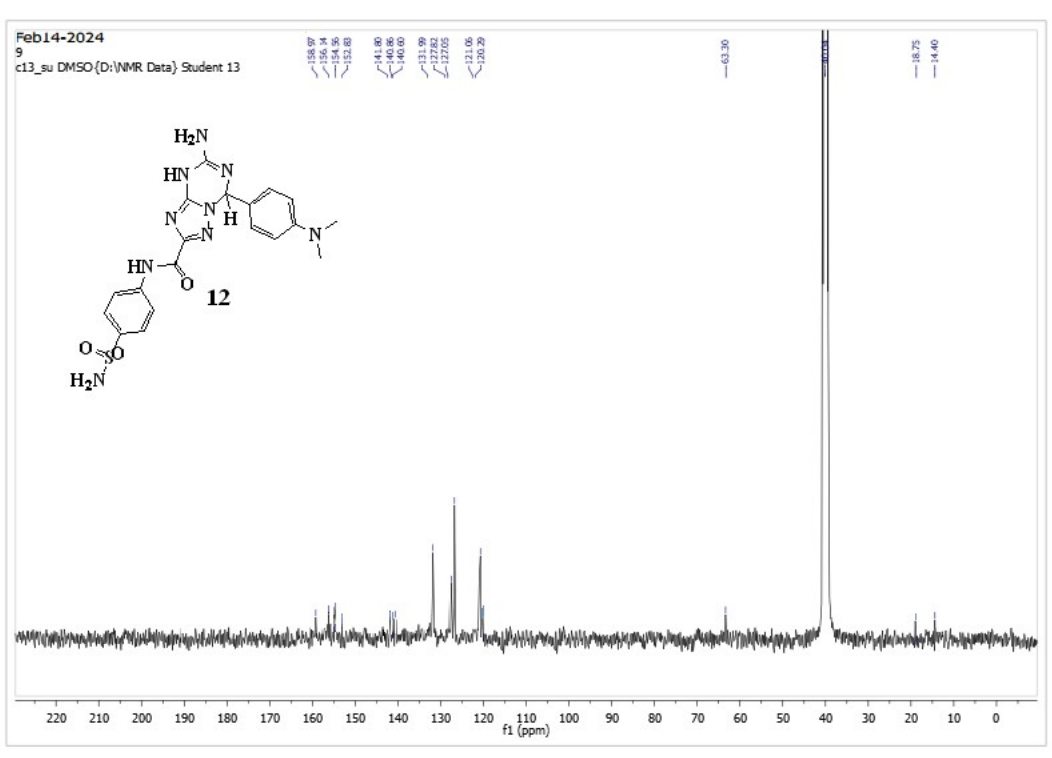


Figure 31:  $^1\text{H}$ NMR Spectrum of compound 12

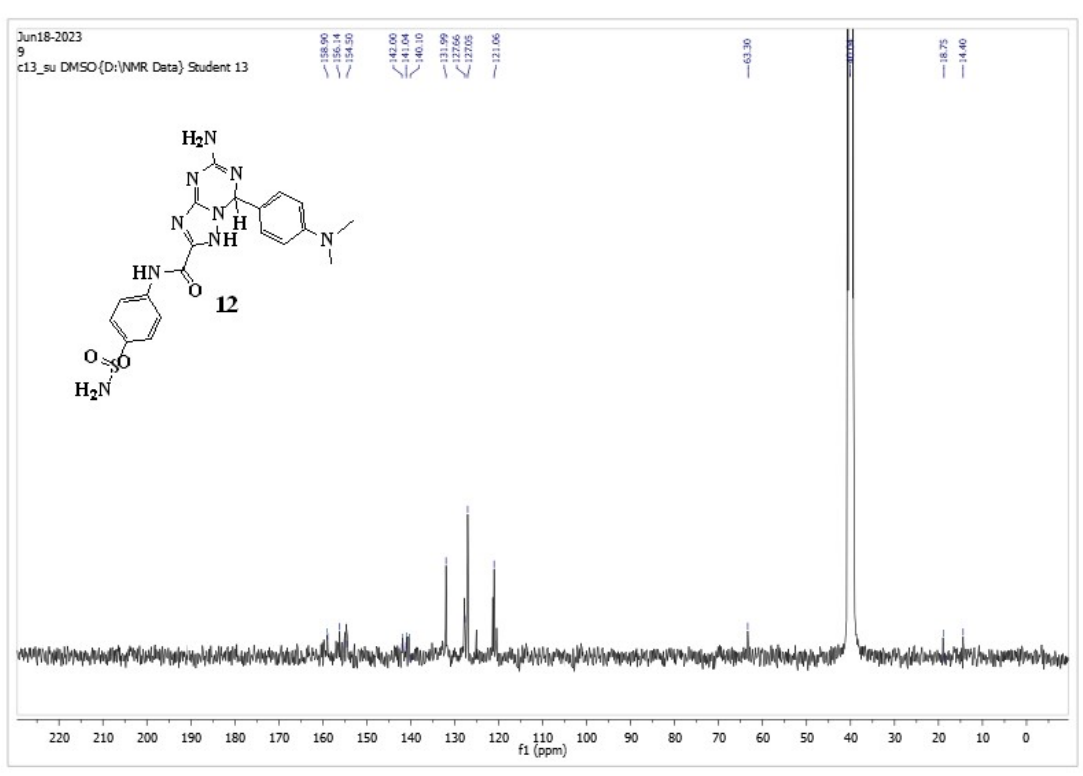


Figure 32:  $^{13}\text{C}$ NMR Spectrum of compound 12



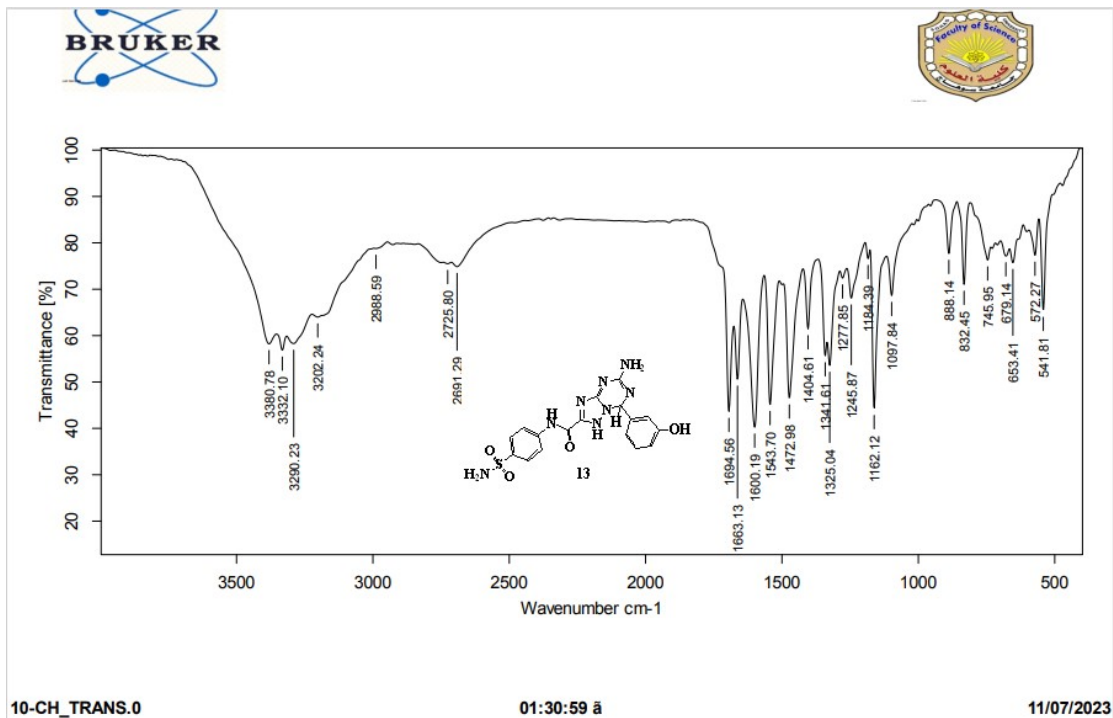


Figure 33: IR Spectrum of compound 13

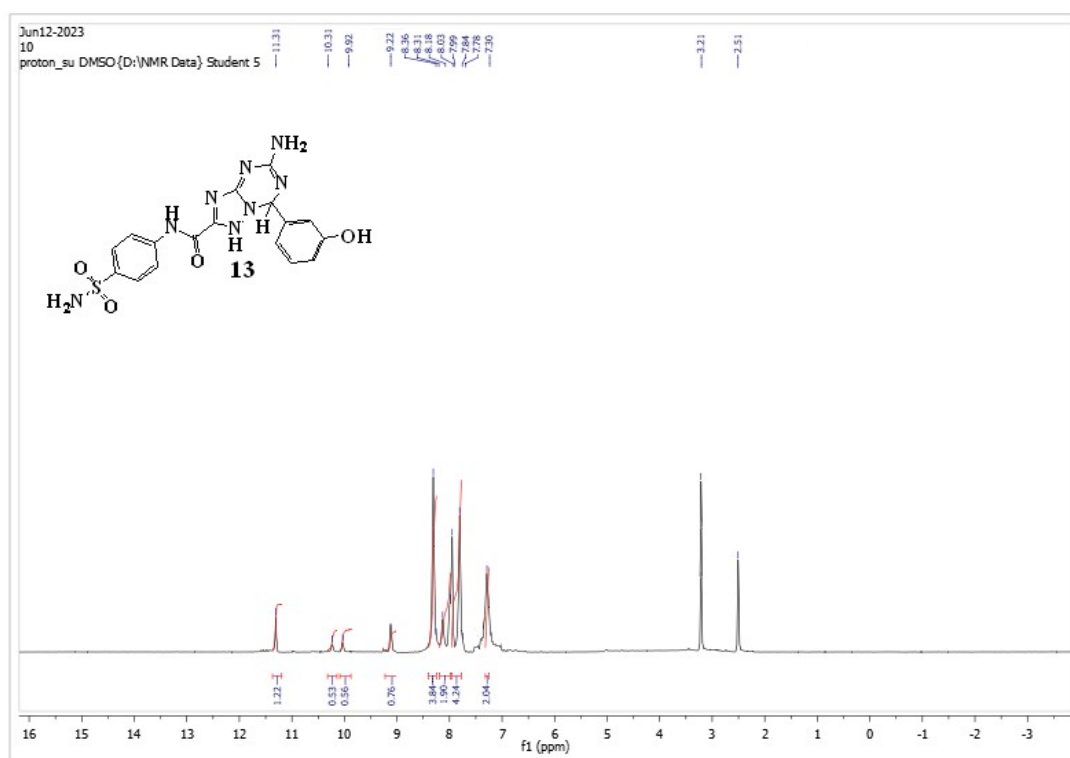


Figure 34: <sup>1</sup>H NMR Spectrum of compound 13

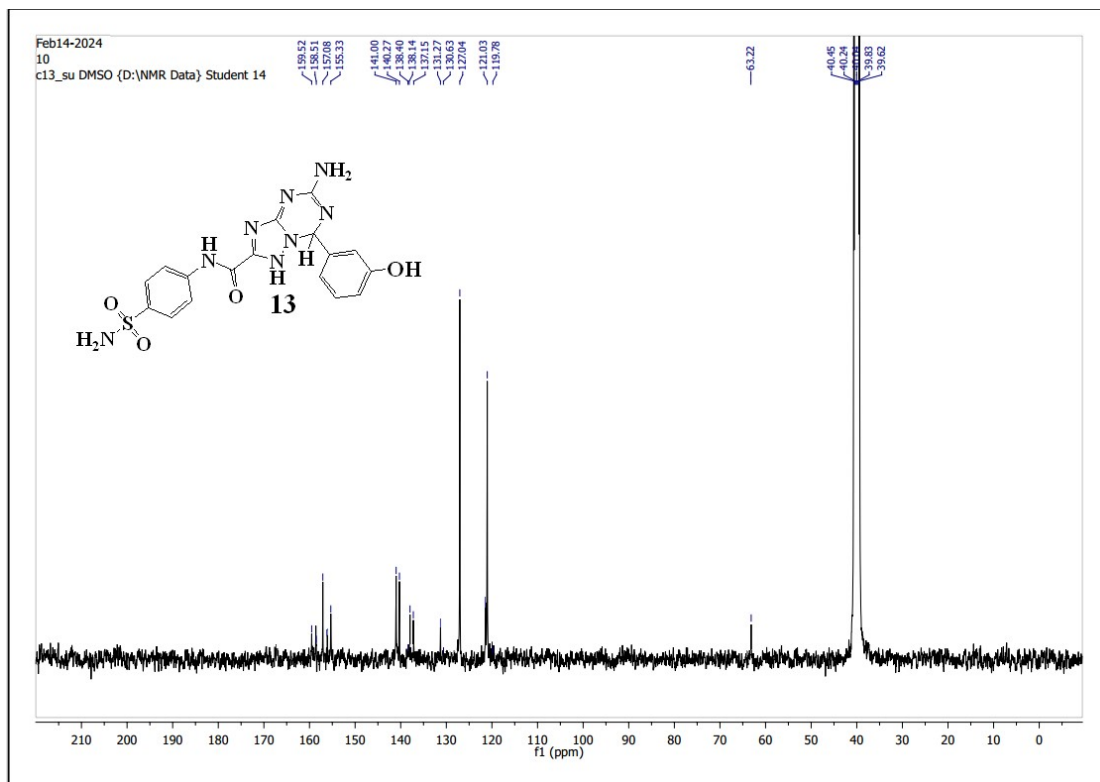


Figure 35:  $^{13}\text{C}$ NMR Spectrum of compound 13