

# Water-soluble BODIPY photocages with tunable cellular localization

Dnyaneshwar Kand,<sup>1</sup> Pei Liu,<sup>‡</sup> Marisol X. Navarro,<sup>‡</sup> Logan J. Fischer,<sup>◇</sup> Liat Rousso-Noori,<sup>◆</sup> Dinorah Friedmann-Morvinski,<sup>◆</sup> Arthur H. Winter,<sup>◇</sup> Evan W. Miller,<sup>‡§†\*</sup> and Roy Weinstein<sup>1\*</sup>

<sup>1</sup>School of Plant Sciences and Food Security & <sup>\*</sup>School of Neurobiology, Biochemistry and Biophysics, Faculty of Life Sciences, Tel-Aviv University, Tel-Aviv 6997801, Israel; Departments of <sup>‡</sup>Chemistry and <sup>§</sup>Molecular & Cell Biology and <sup>†</sup>Helen Wills Neuroscience Institute. University of California, Berkeley, California 94720, United States; and <sup>◇</sup>Department of Chemistry, Iowa State University, Ames, Iowa, 50010, United States.

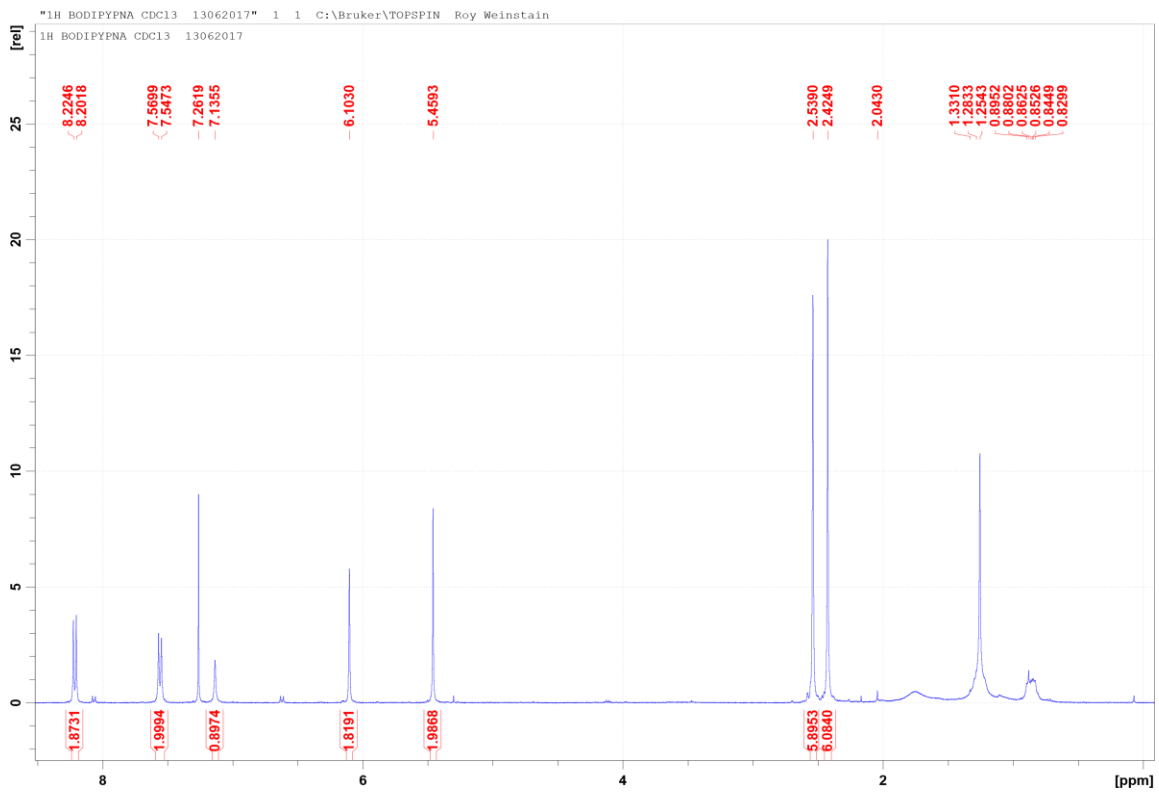


Figure 1. <sup>1</sup>H (400 MHz, CDCl<sub>3</sub>): **1**

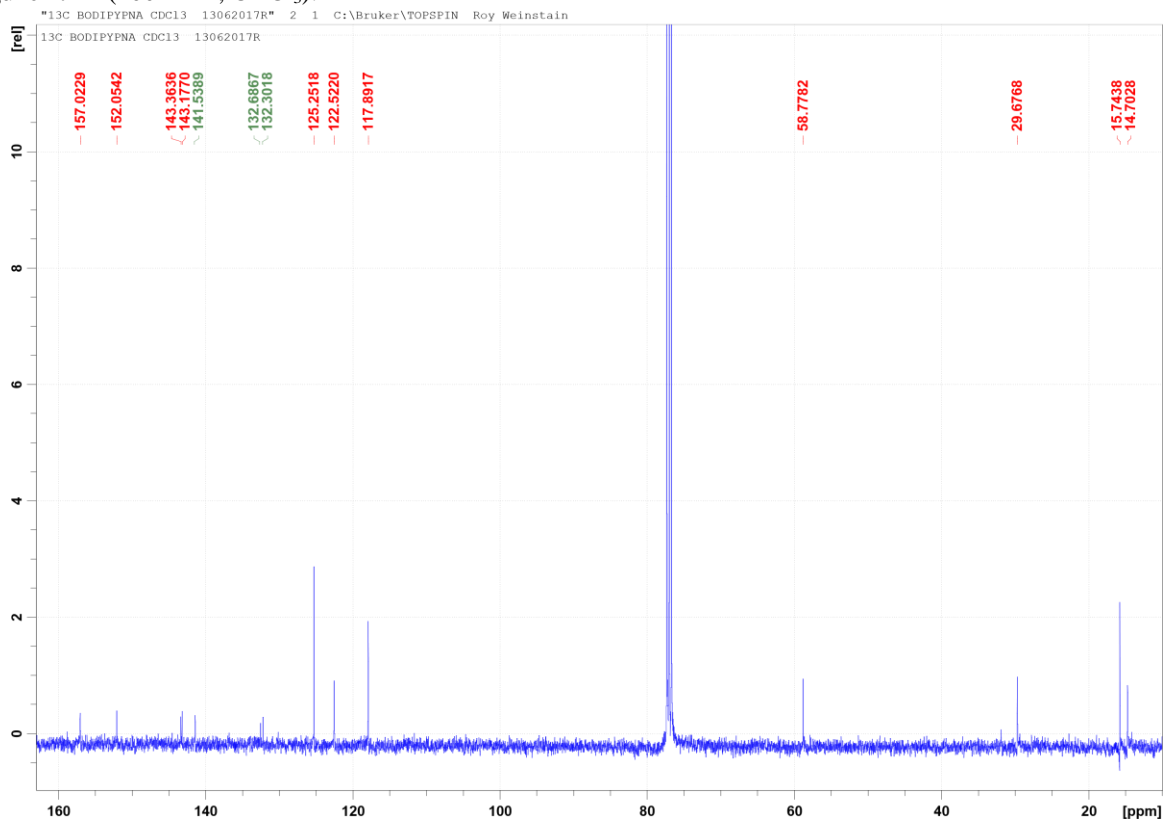


Figure 2. <sup>13</sup>C (101 MHz, CDCl<sub>3</sub>): **1**

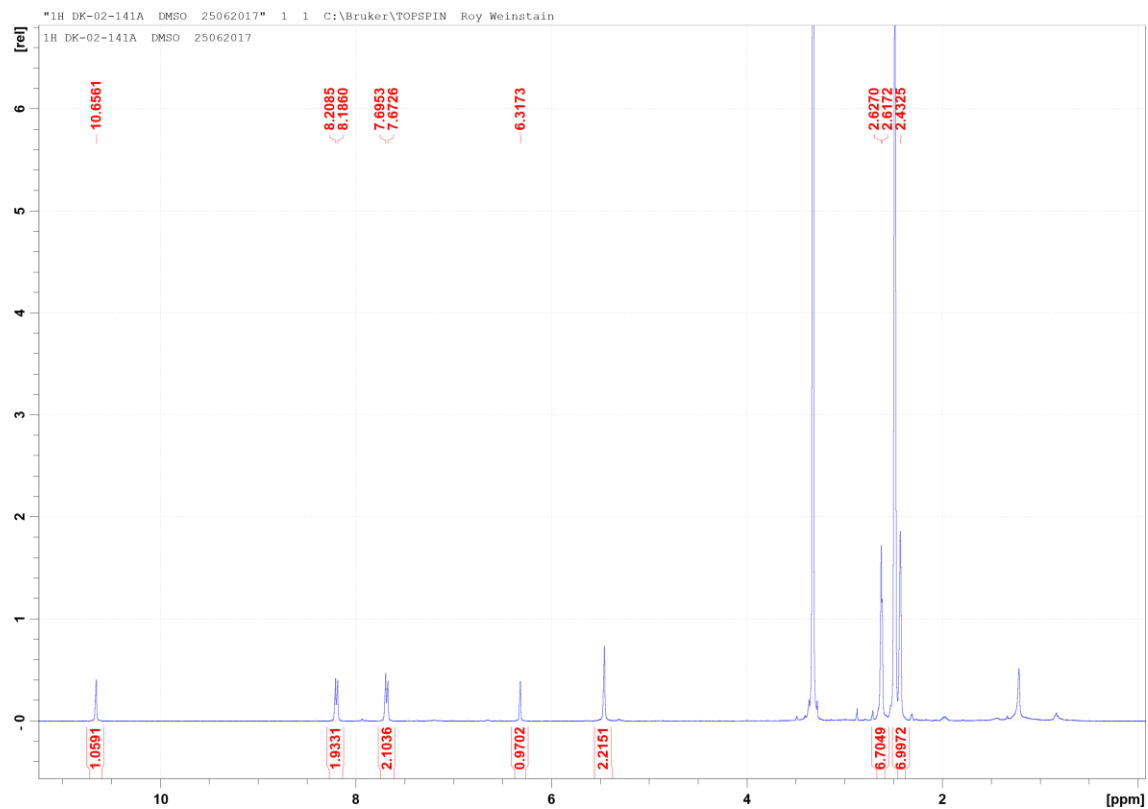


Figure 3.  $^1\text{H}$  (400 MHz,  $\text{DMSO-d}_6$ ): 2

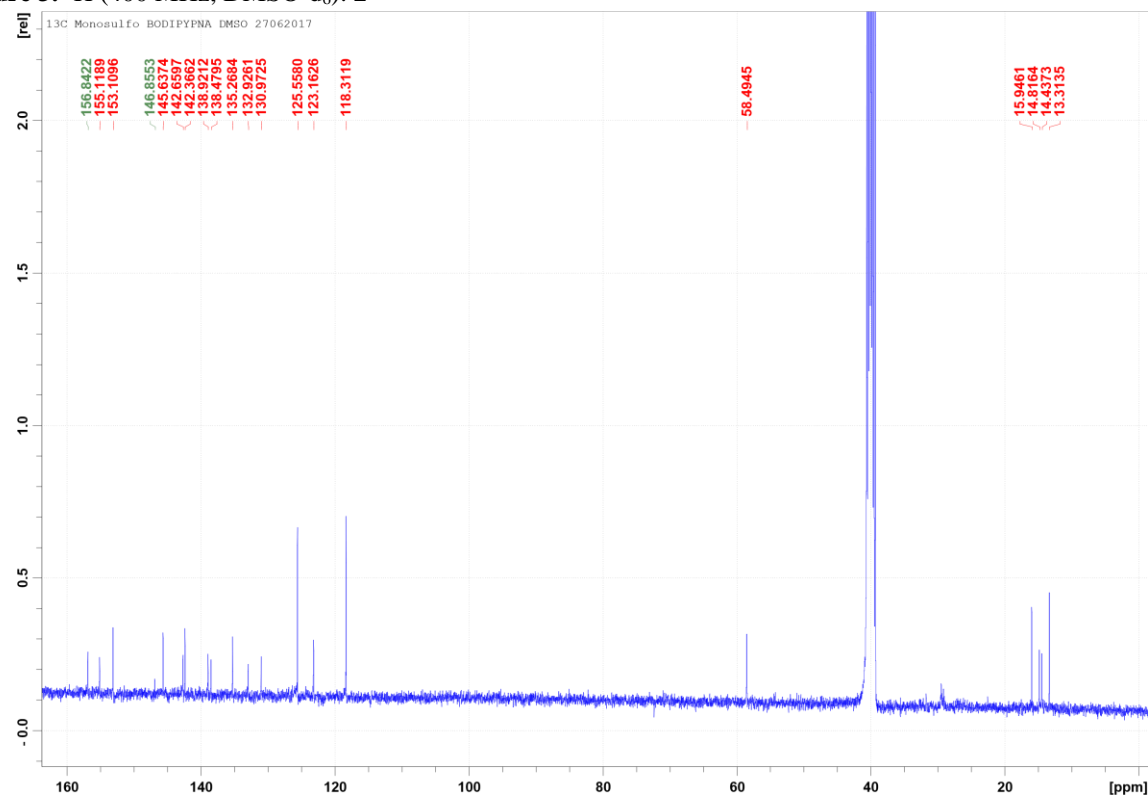


Figure 4.  $^{13}\text{C}$  (101 MHz,  $\text{DMSO-d}_6$ ): 2

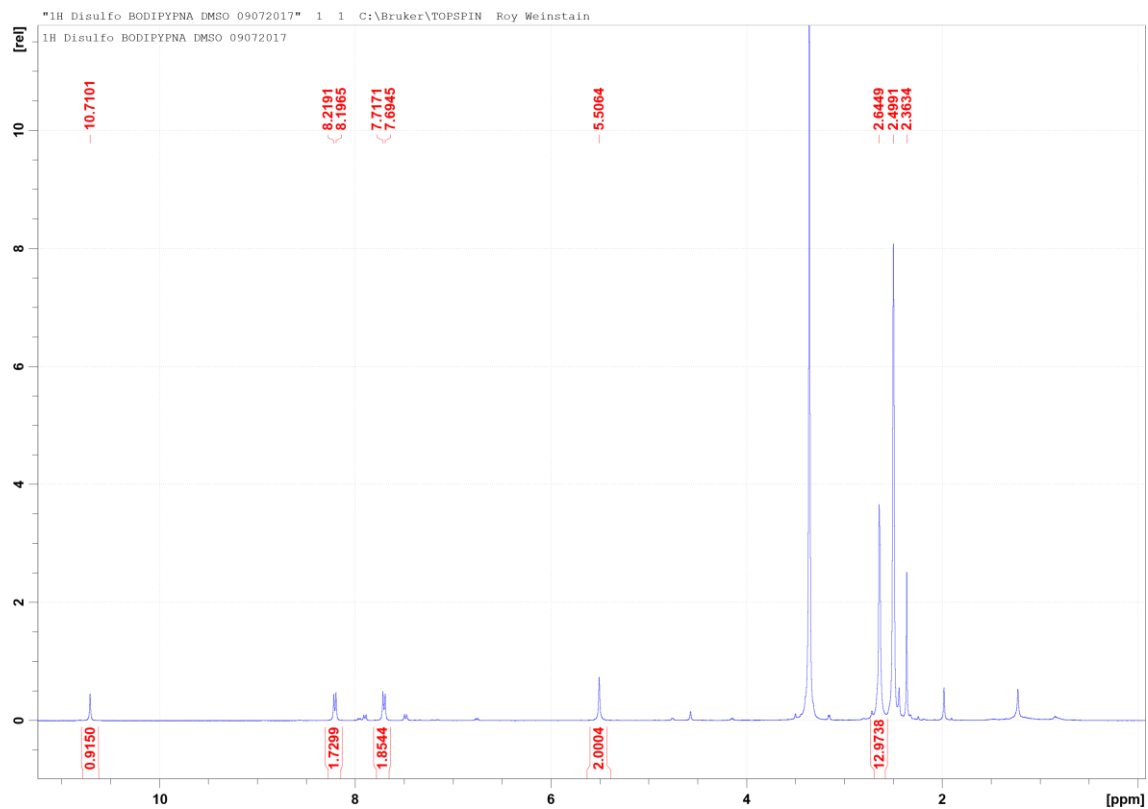


Figure 5.  $^1\text{H}$  (400 MHz,  $\text{DMSO-d}_6$ ): **3**

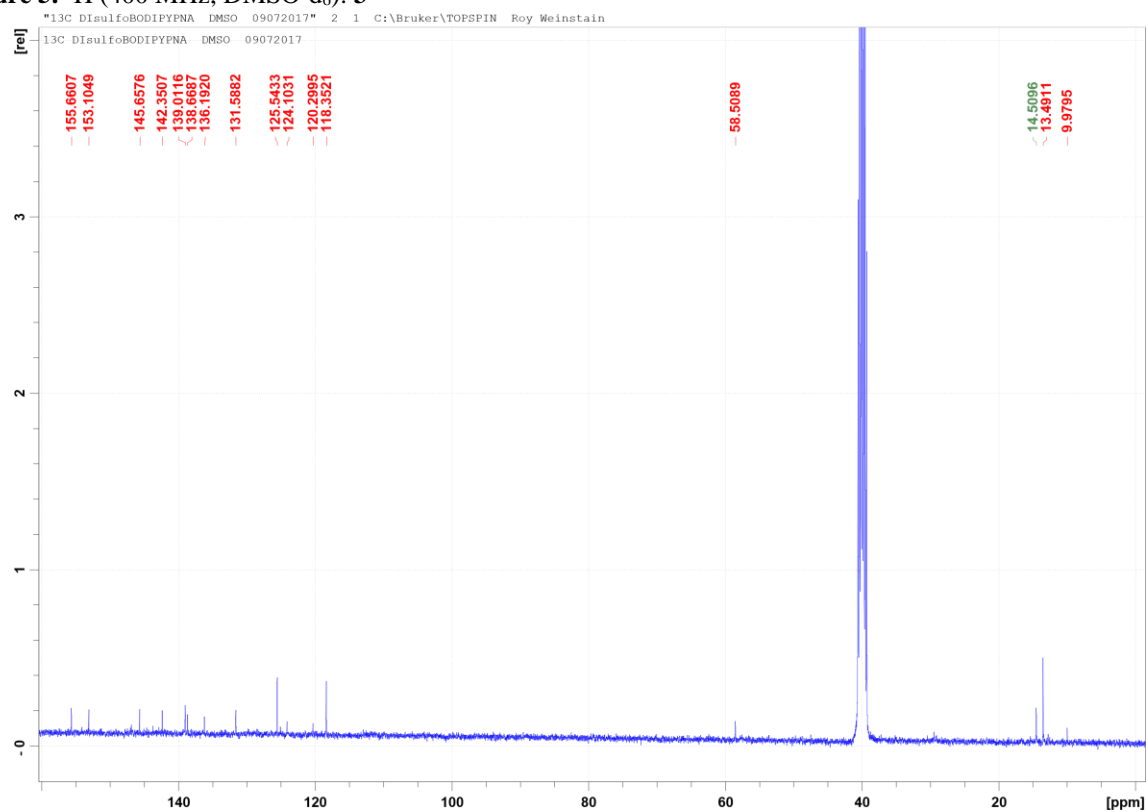


Figure 6.  $^{13}\text{C}$  (101 MHz,  $\text{DMSO-d}_6$ ): **3**

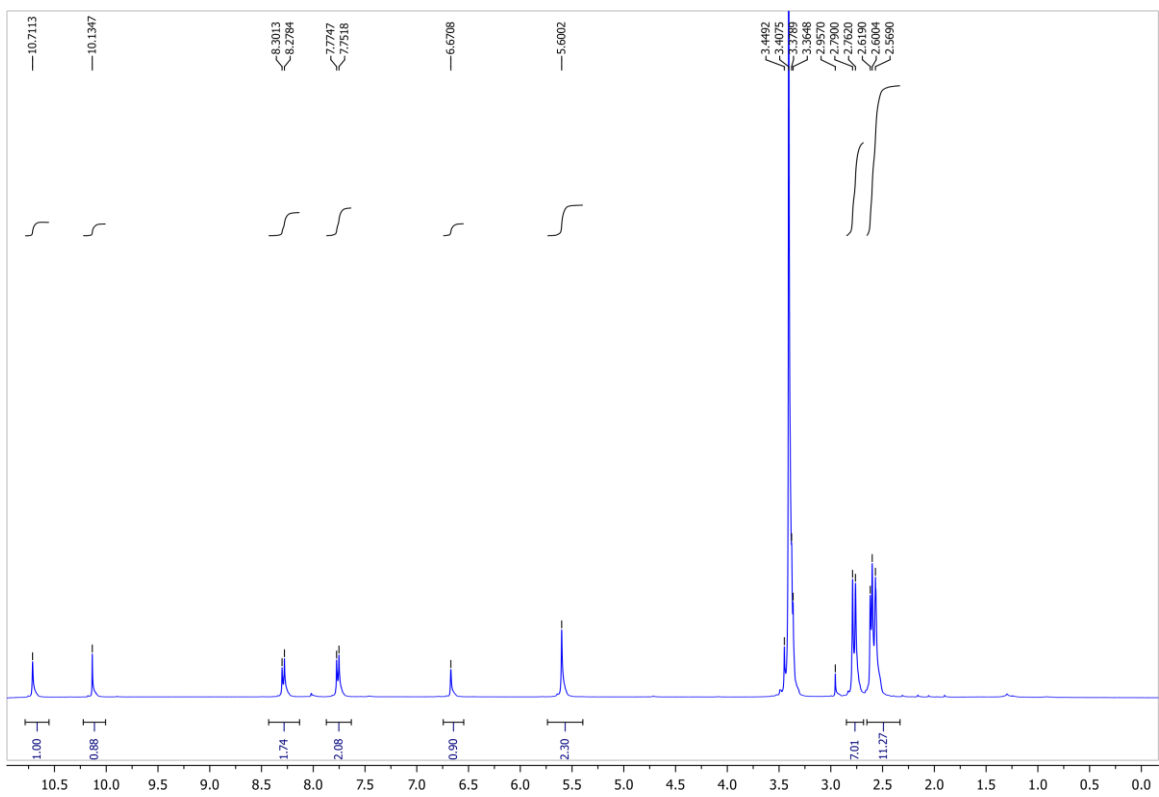


Figure 7.  $^1\text{H}$  (400 MHz,  $\text{DMSO-d}_6$ ): **4**

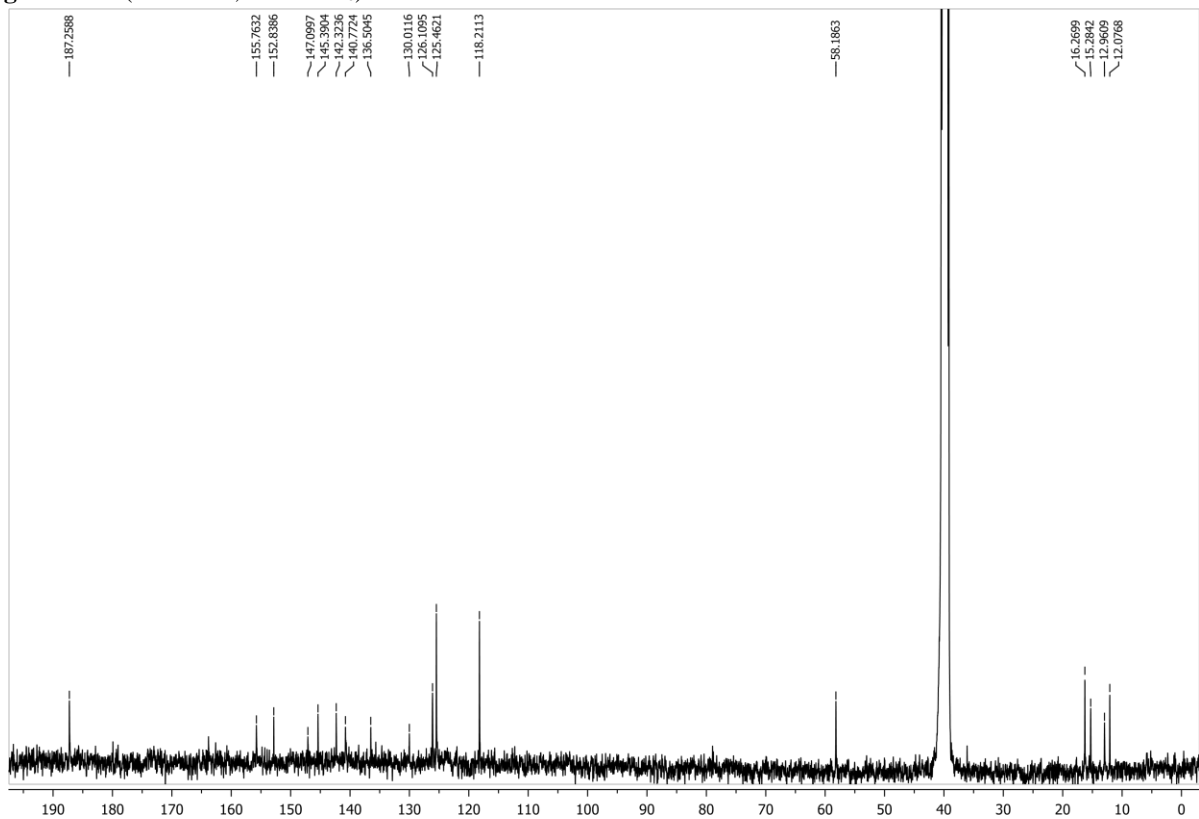


Figure 8.  $^{13}\text{C}$  (101 MHz,  $\text{DMSO-d}_6$ ): **4**

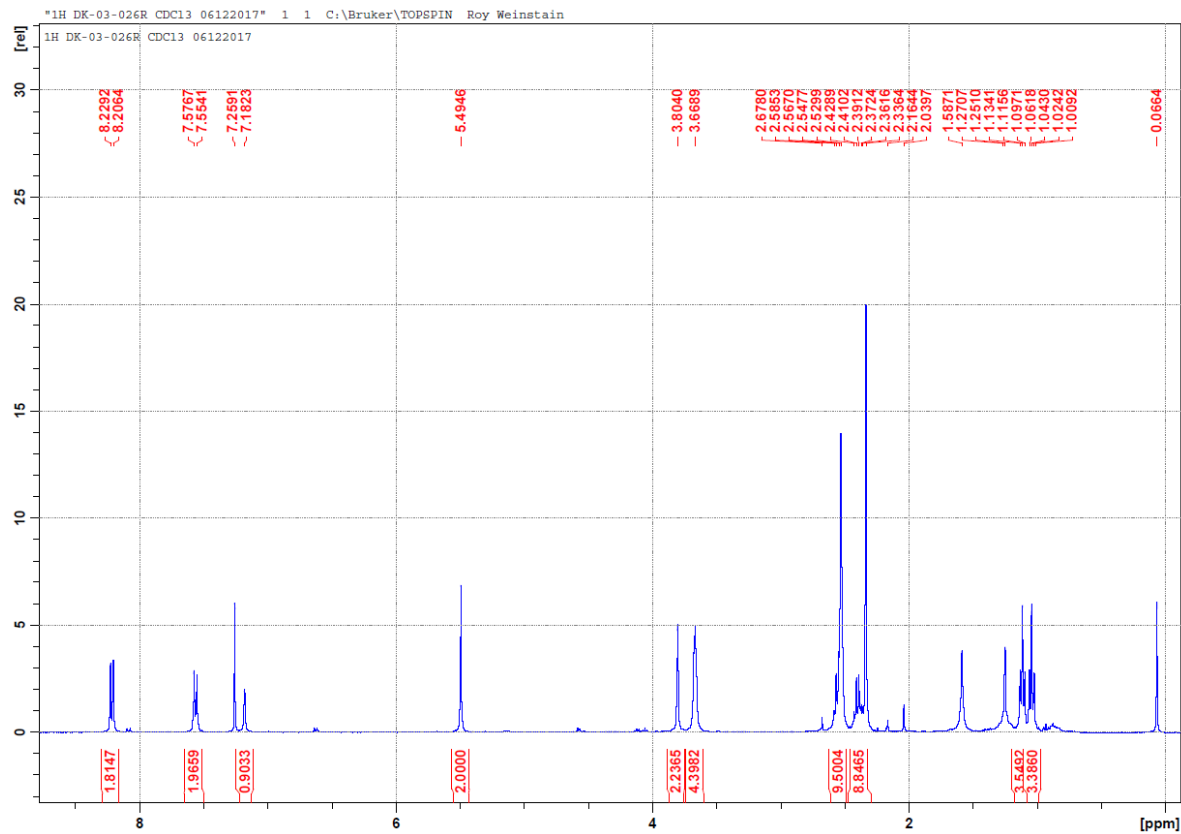


Figure 9.  $^1\text{H}$  (400 MHz,  $\text{CDCl}_3$ ): **6**

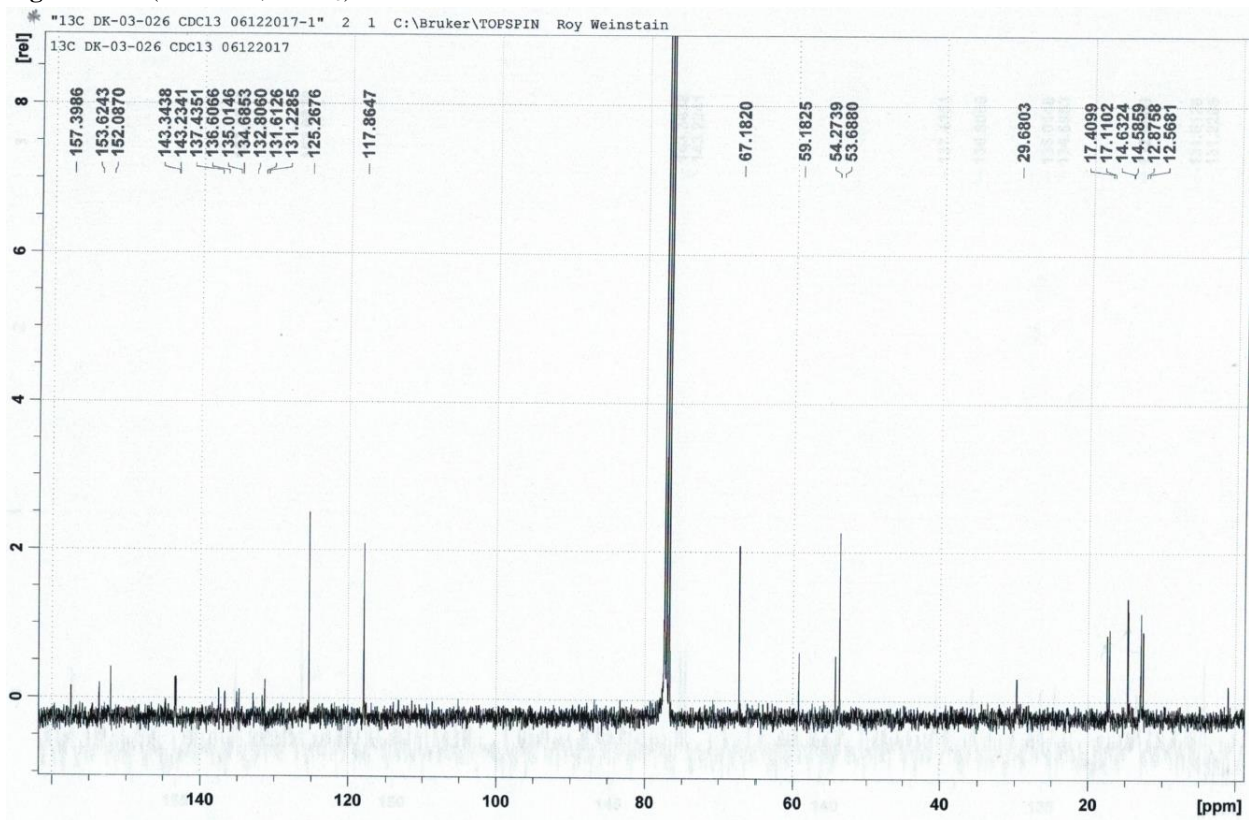


Figure 10.  $^{13}\text{C}$  (101 MHz,  $\text{CDCl}_3$ ): **6**

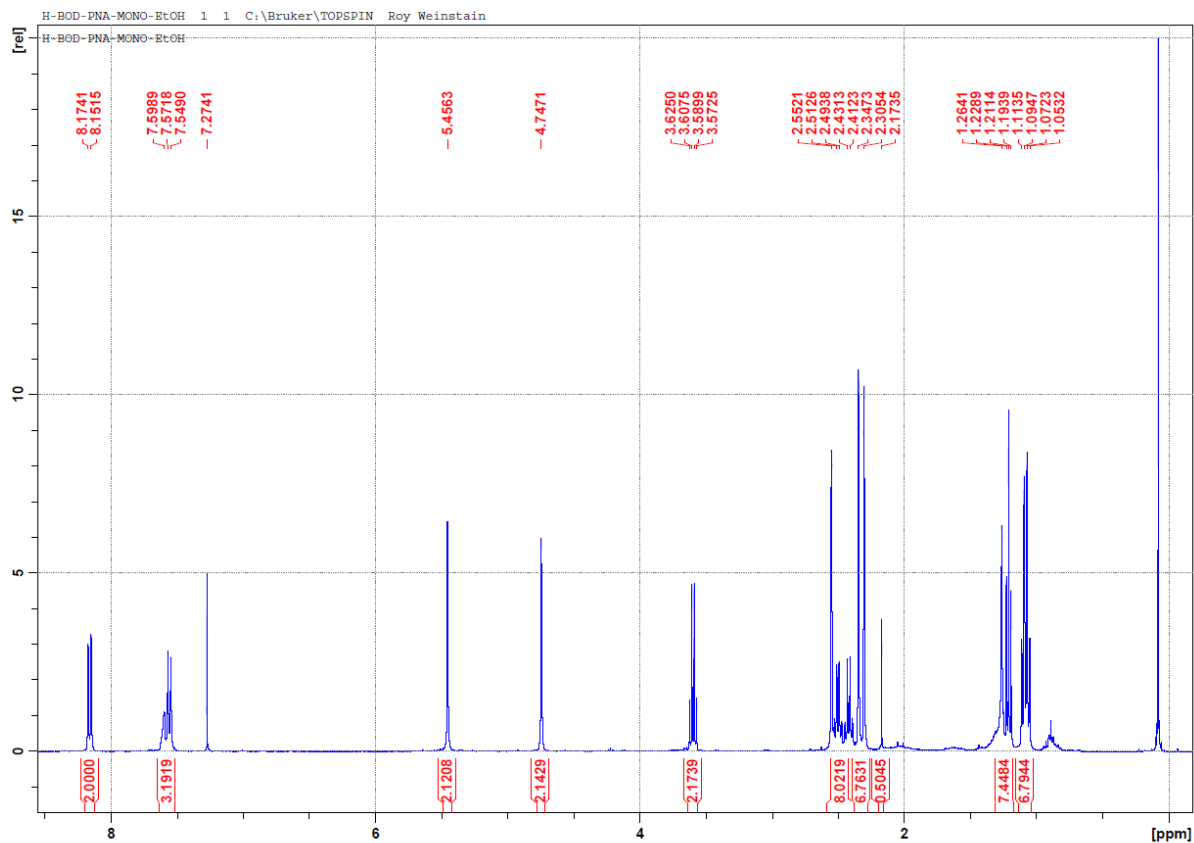


Figure 11.  $^1\text{H}$  (400 MHz,  $\text{CDCl}_3$ ): 7

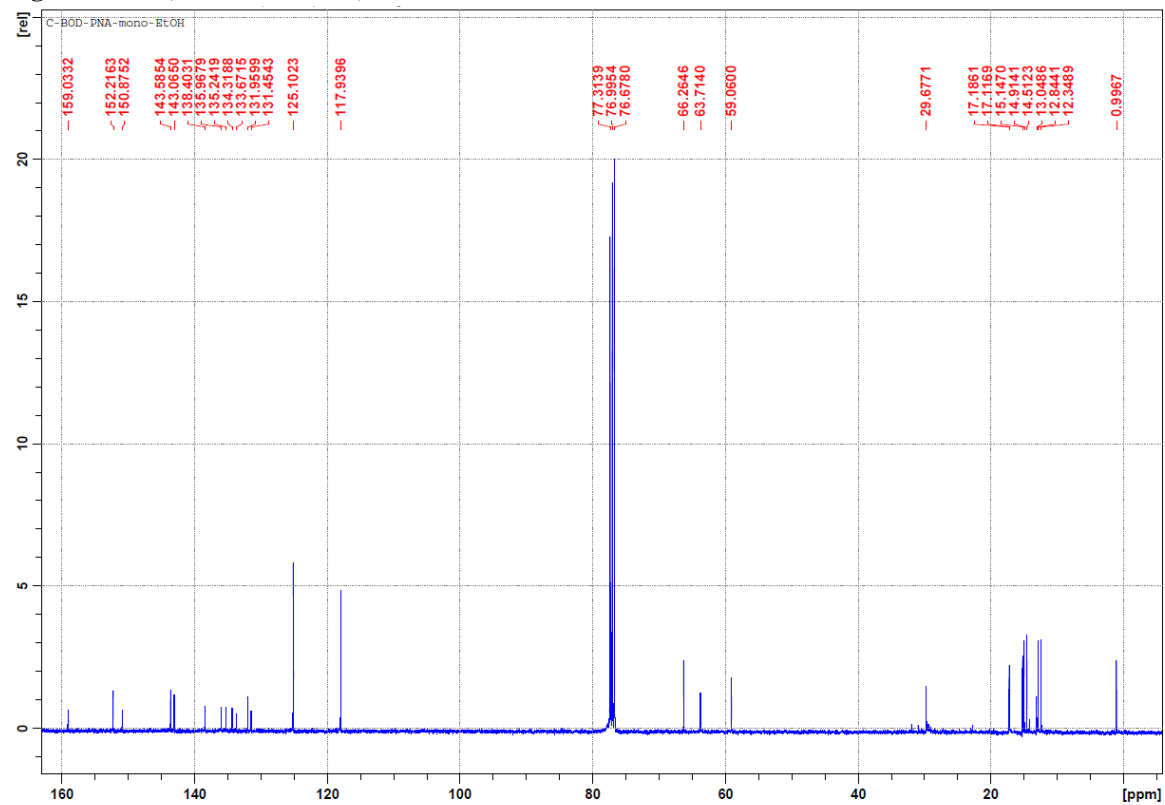


Figure 12.  $^{13}\text{C}$  (101 MHz,  $\text{CDCl}_3$ ): 7

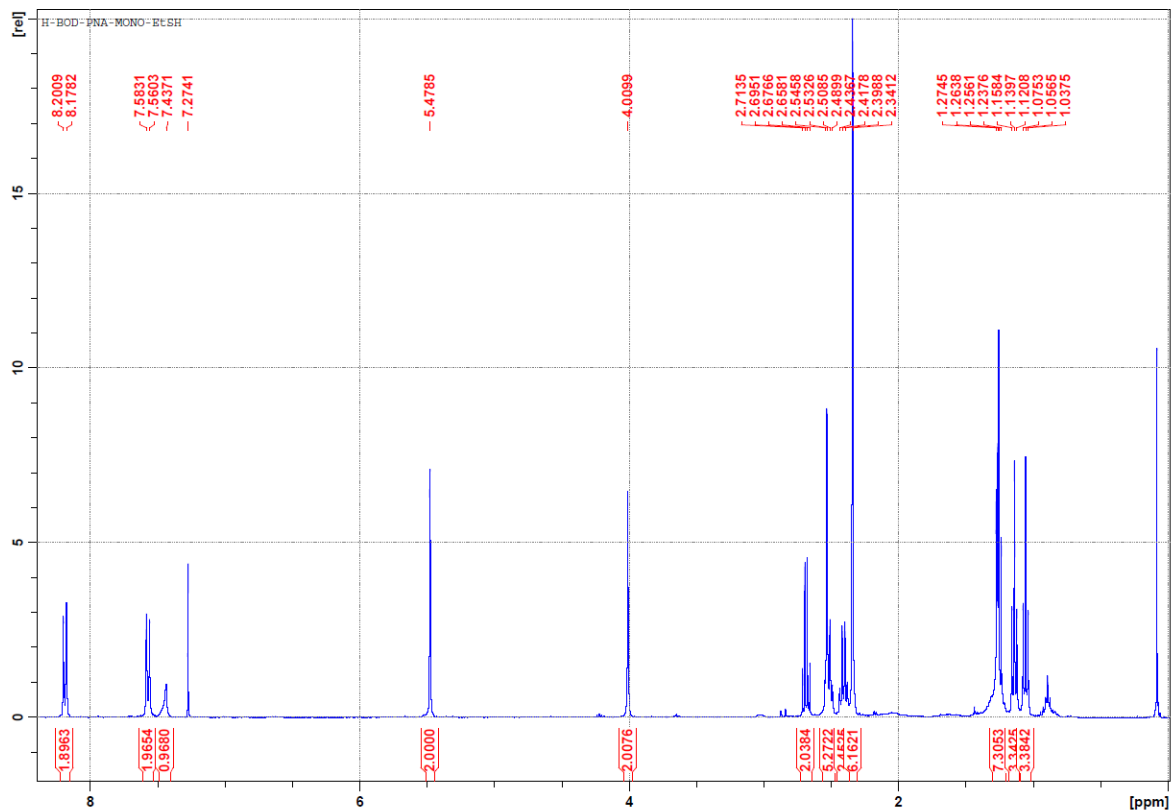


Figure 13.  $^1\text{H}$  (400 MHz,  $\text{CDCl}_3$ ): 8

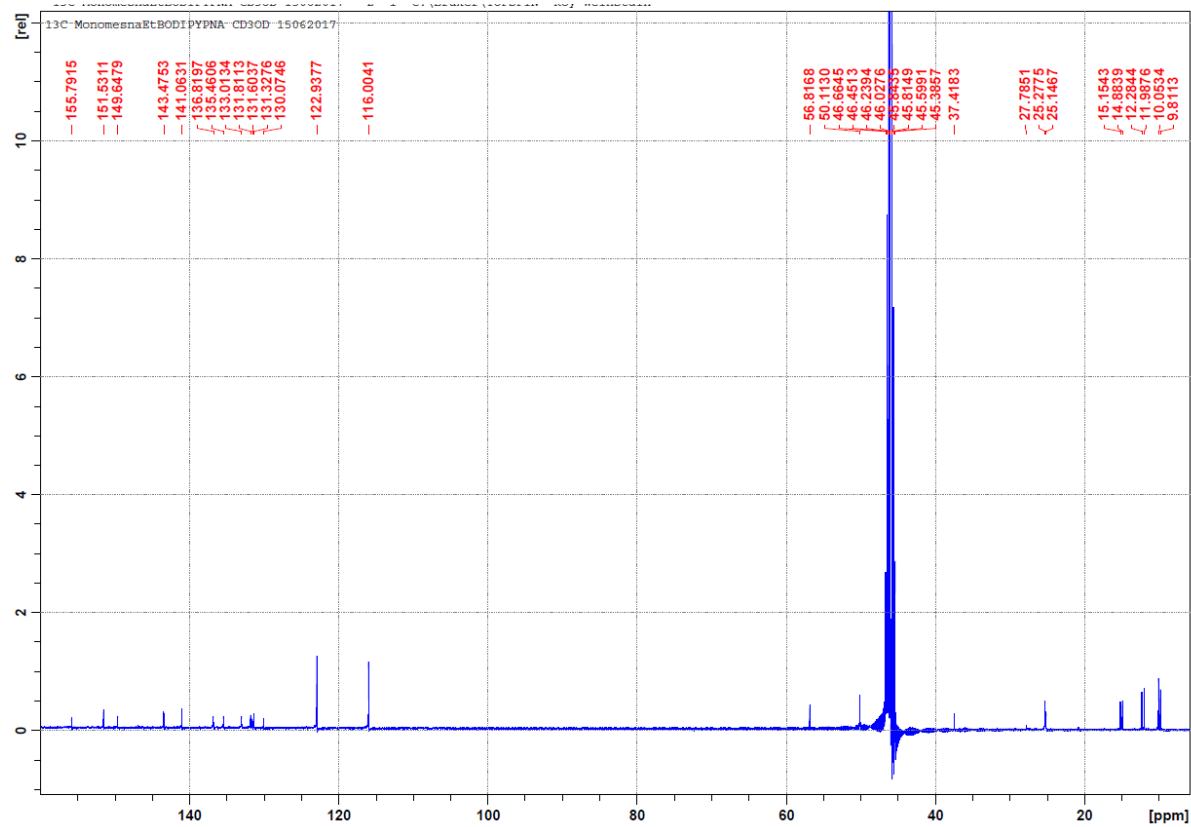


Figure 14.  $^{13}\text{C}$  (101 MHz,  $\text{CDCl}_3$ ): 8



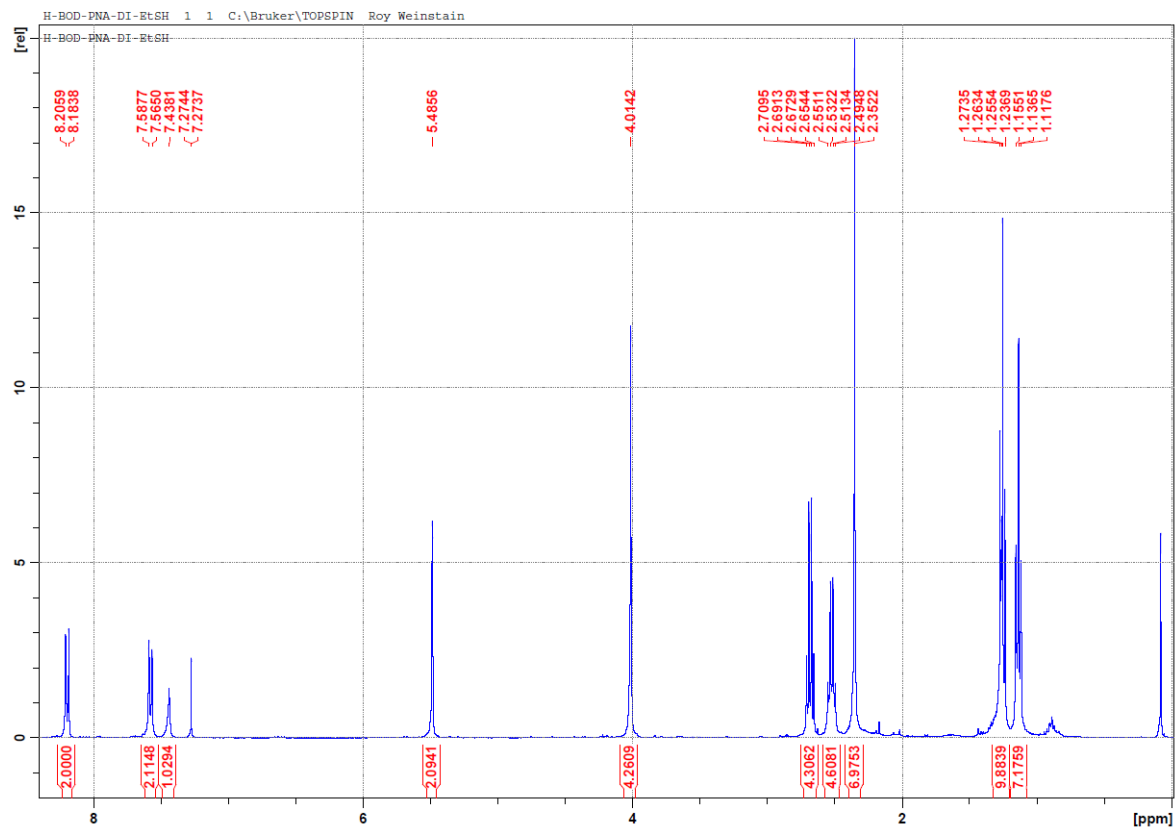


Figure 15.  $^1\text{H}$  (400 MHz,  $\text{CDCl}_3$ ): **9**

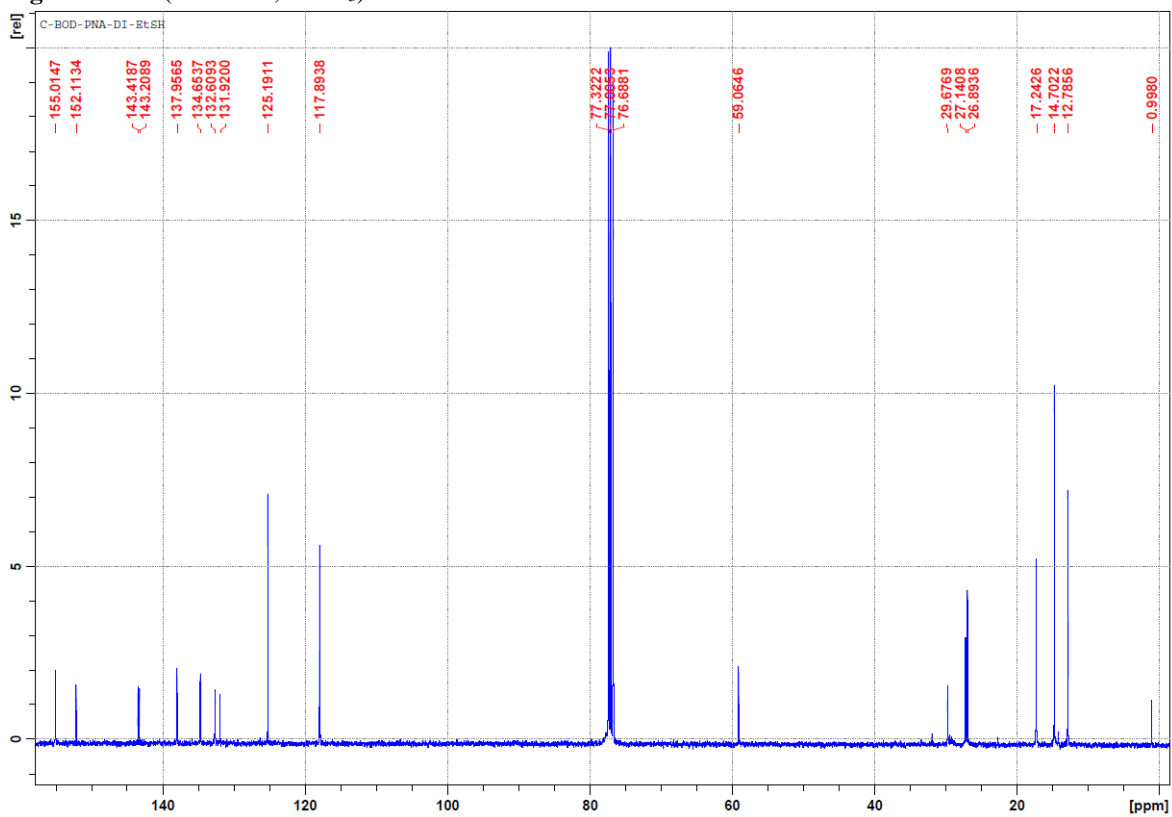


Figure 16.  $^{13}\text{C}$  (101 MHz,  $\text{CDCl}_3$ ): **9**

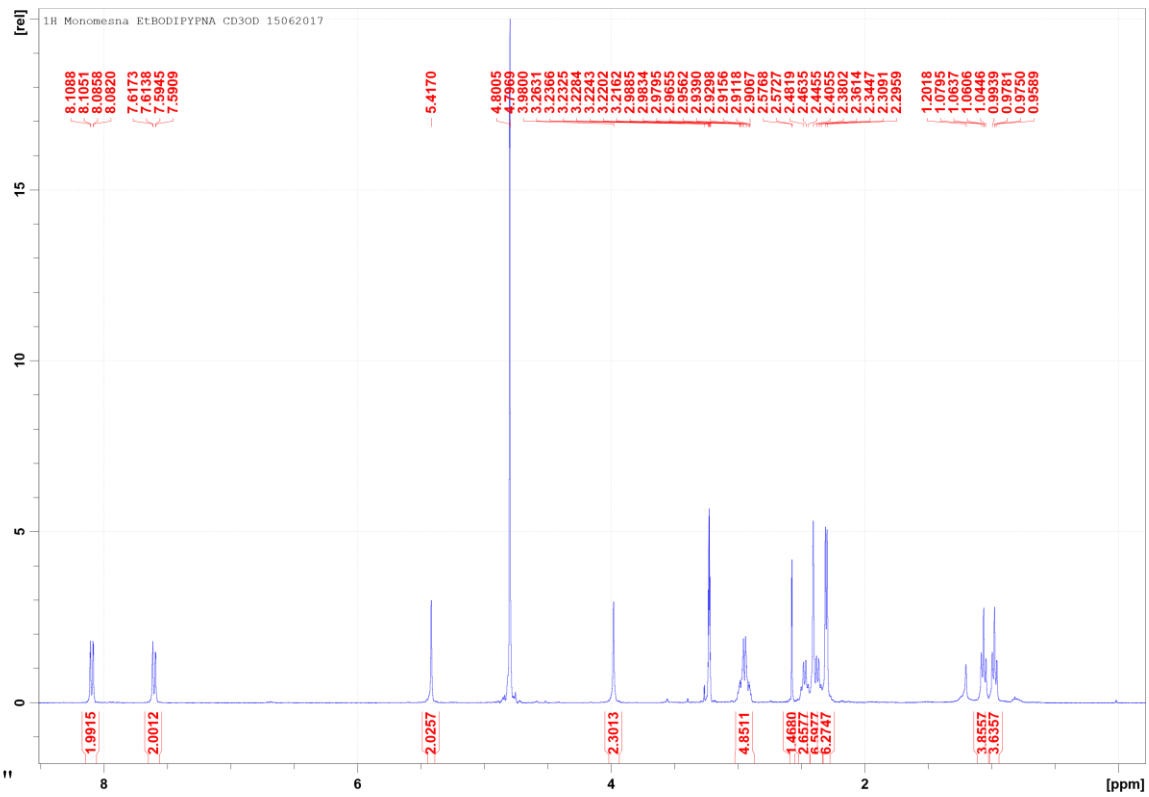


Figure 17. <sup>1</sup>H (400 MHz, CD<sub>3</sub>OD): 11

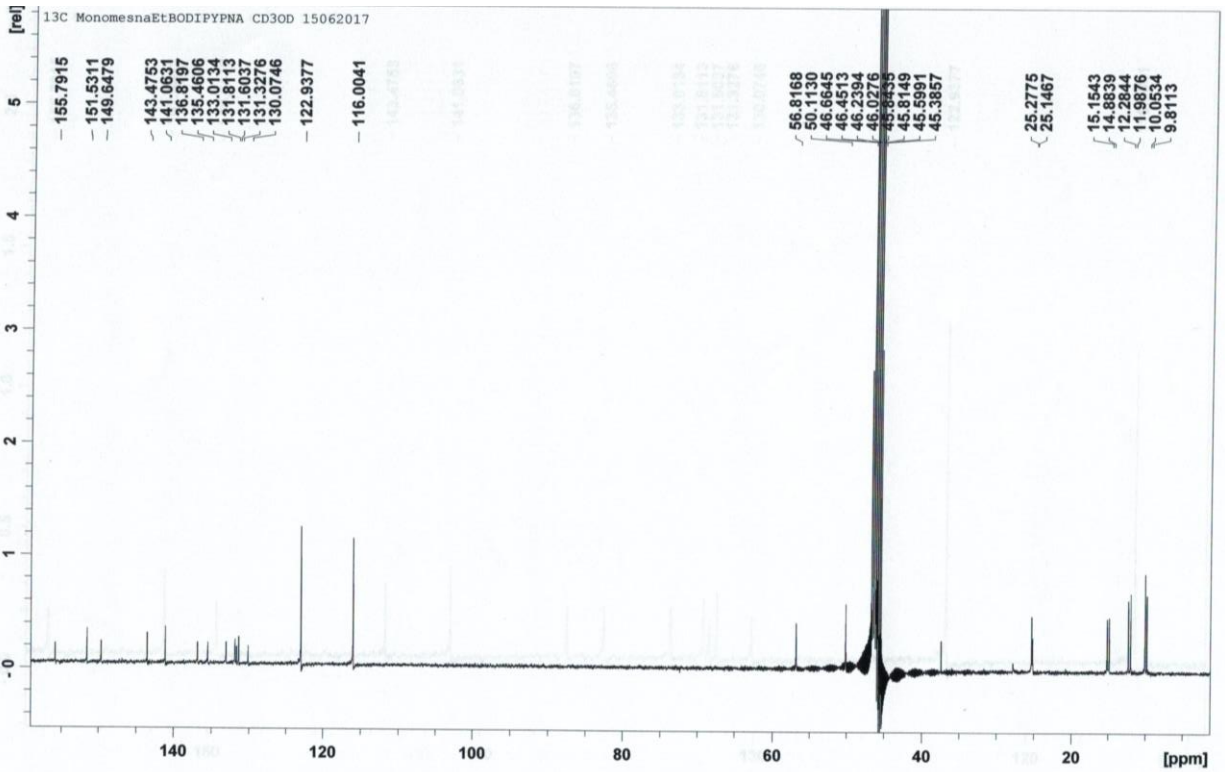


Figure 18. <sup>13</sup>C (101 MHz, CD<sub>3</sub>OD): 11

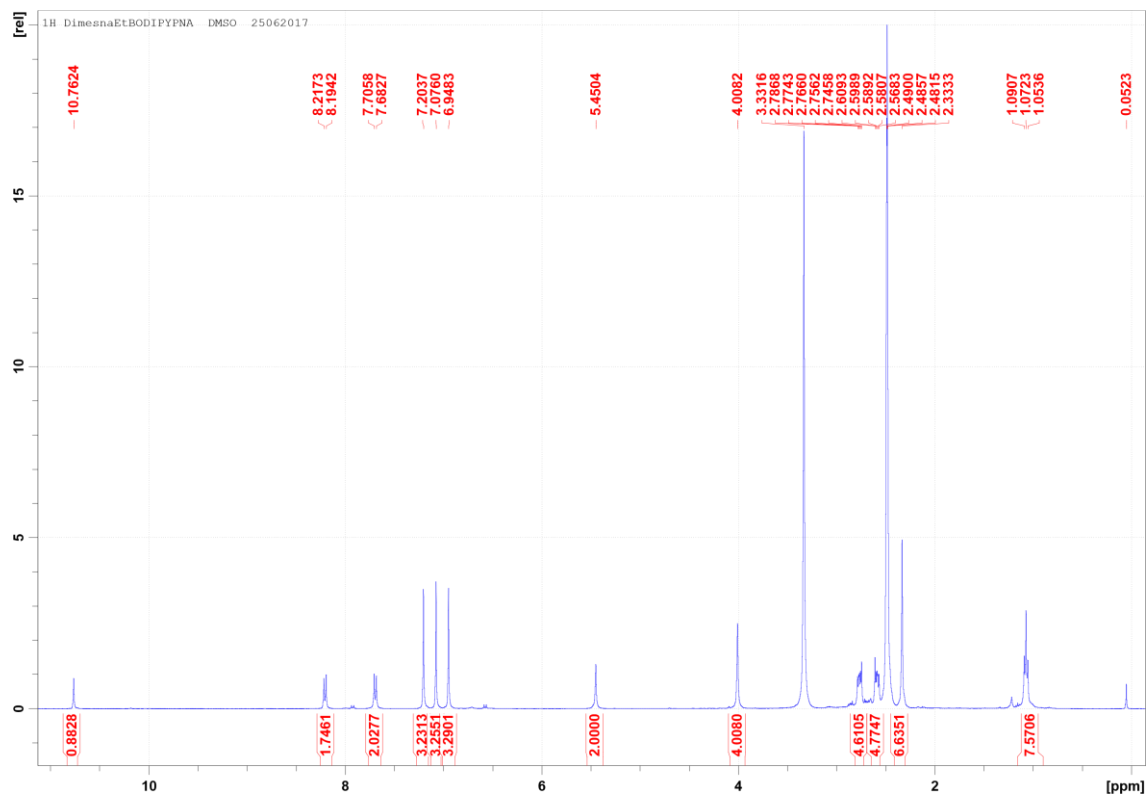


Figure 19. <sup>1</sup>H (400 MHz, DMSO-d<sub>6</sub>): 11

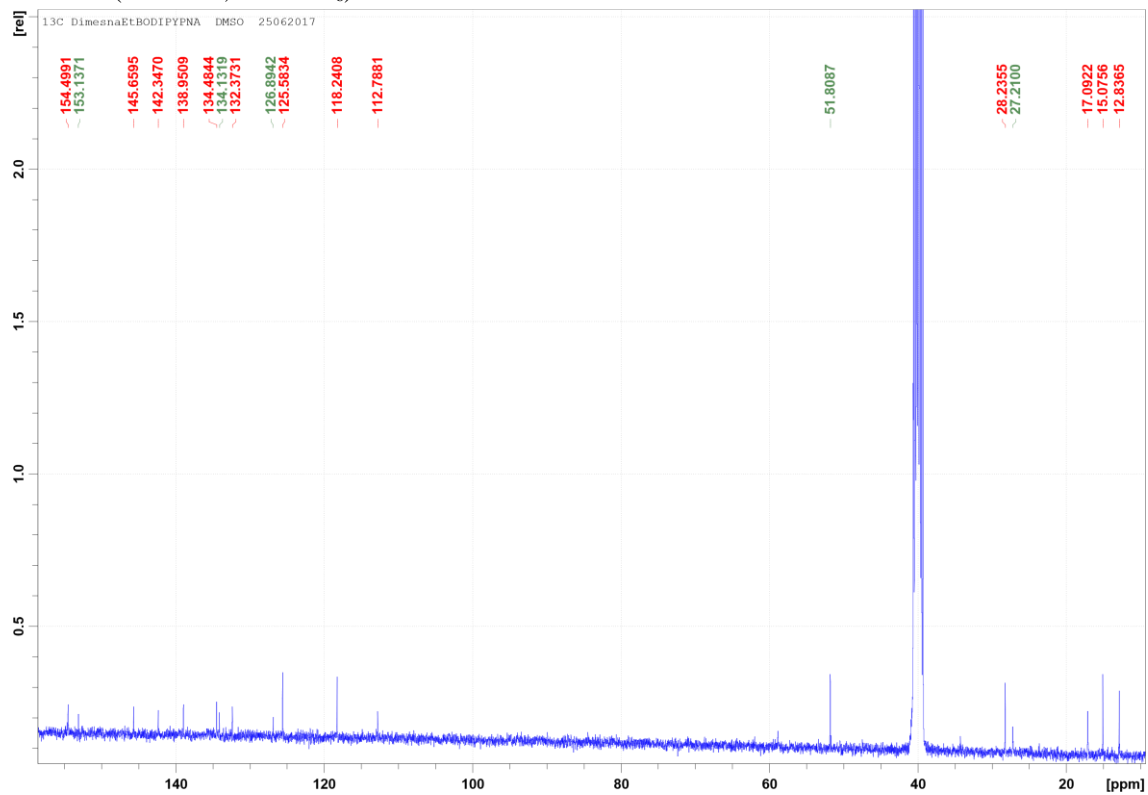
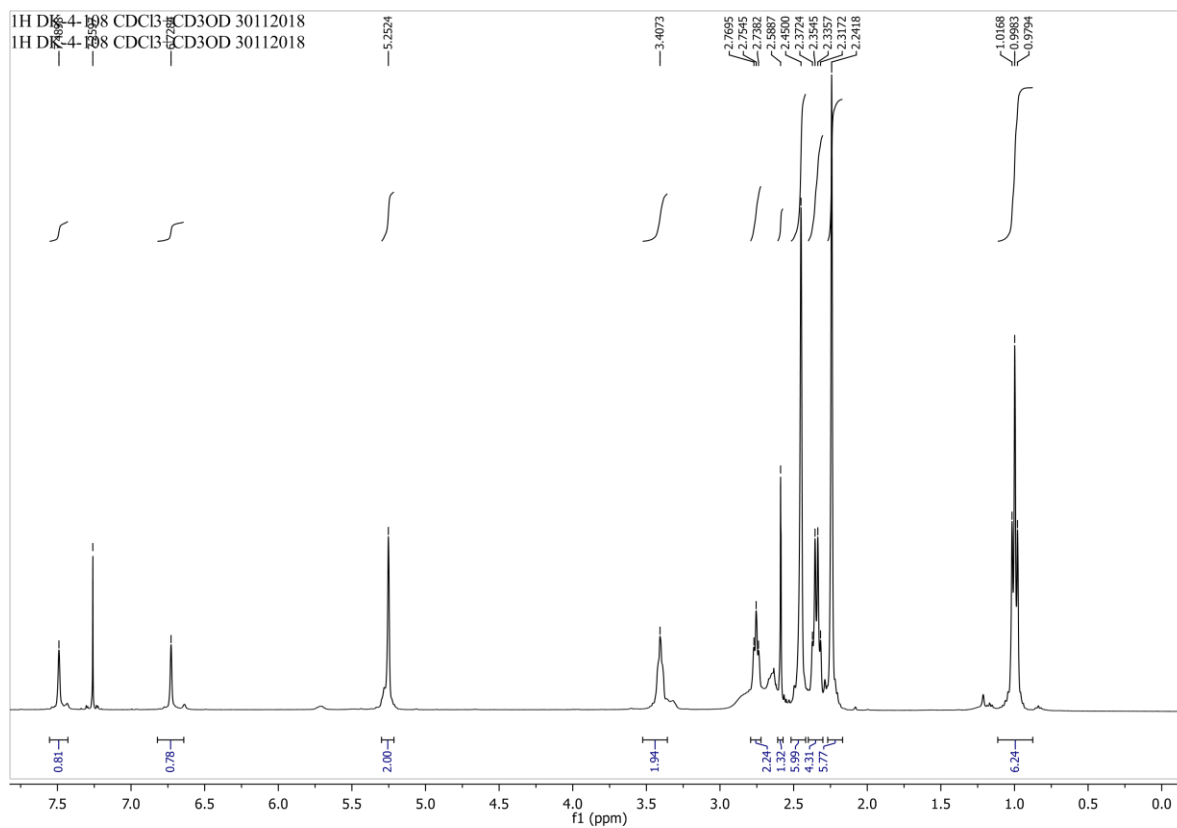
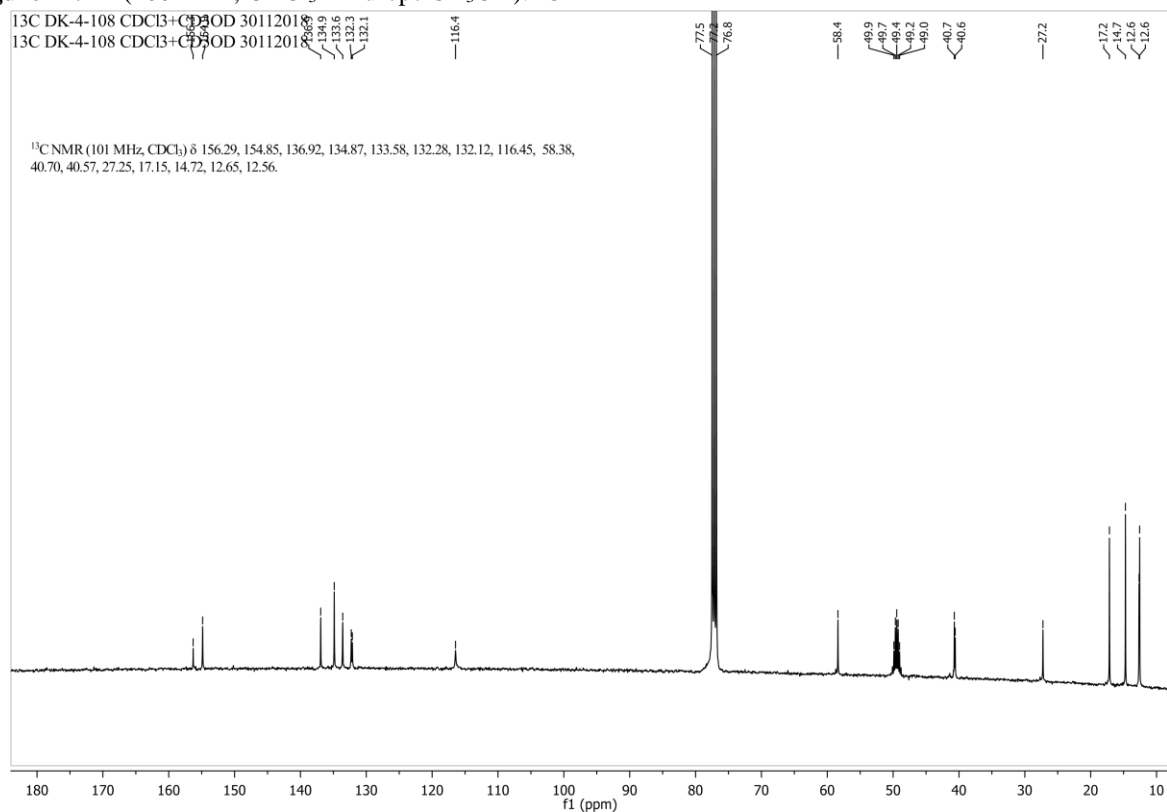


Figure 20. <sup>13</sup>C (101 MHz, DMSO-d<sub>6</sub>): 11



**Figure 21.** <sup>1</sup>H (400 MHz, CDCl<sub>3</sub> + 2 drops CD<sub>3</sub>OD): **13**



**Figure 22.** <sup>13</sup>C (101 MHz, CDCl<sub>3</sub> + 2 drops CD<sub>3</sub>OD): **13**

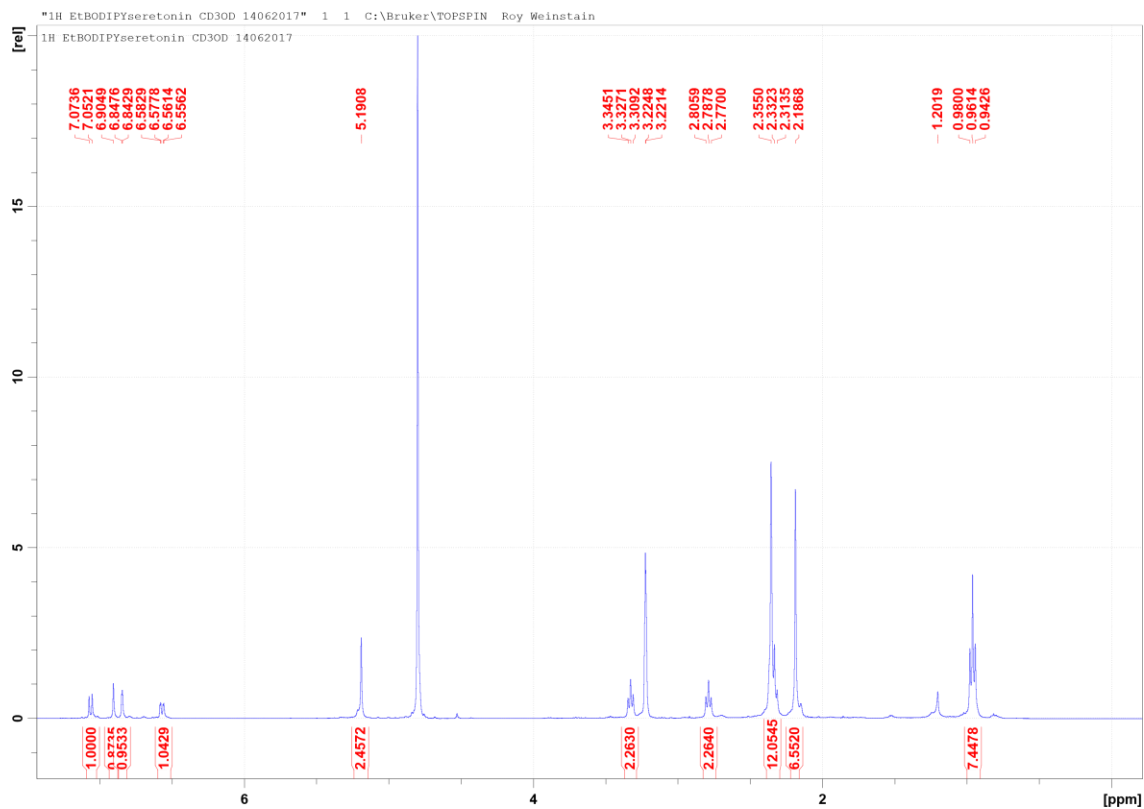


Figure 23. <sup>1</sup>H (400 MHz, CD<sub>3</sub>OD): 14

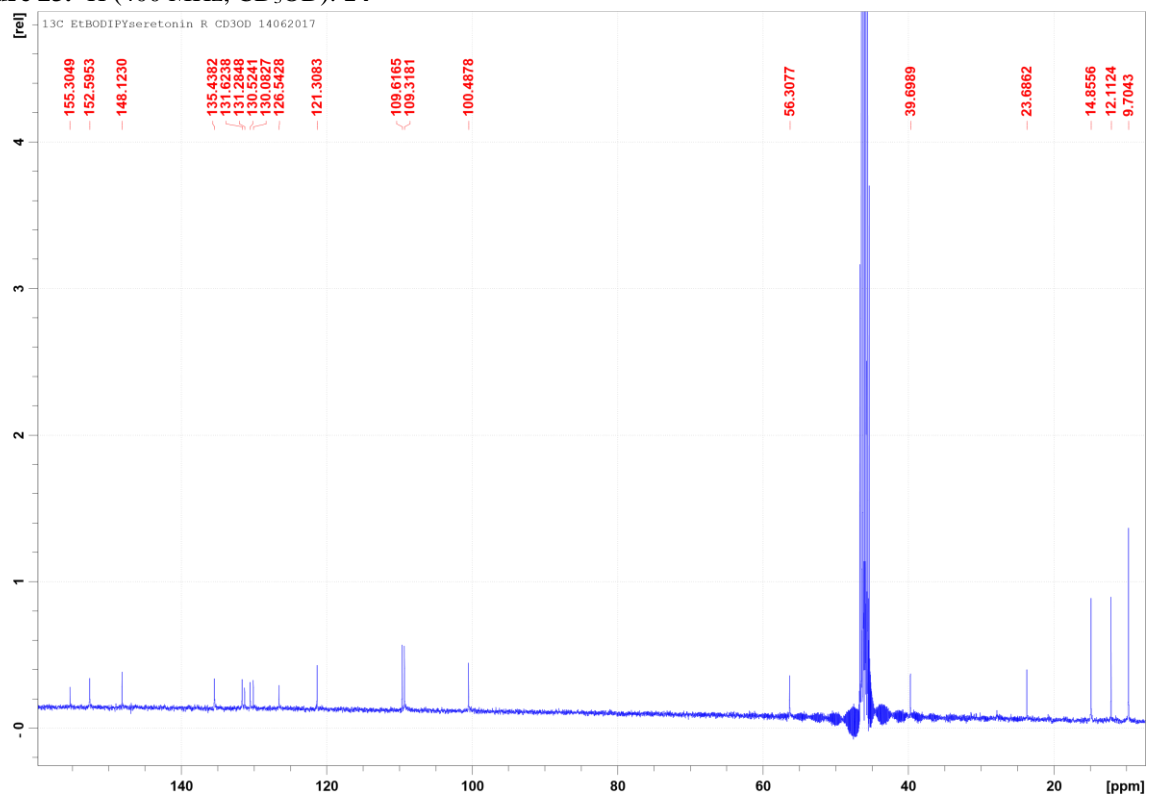


Figure 24. <sup>13</sup>C (101 MHz, CD<sub>3</sub>OD): 14

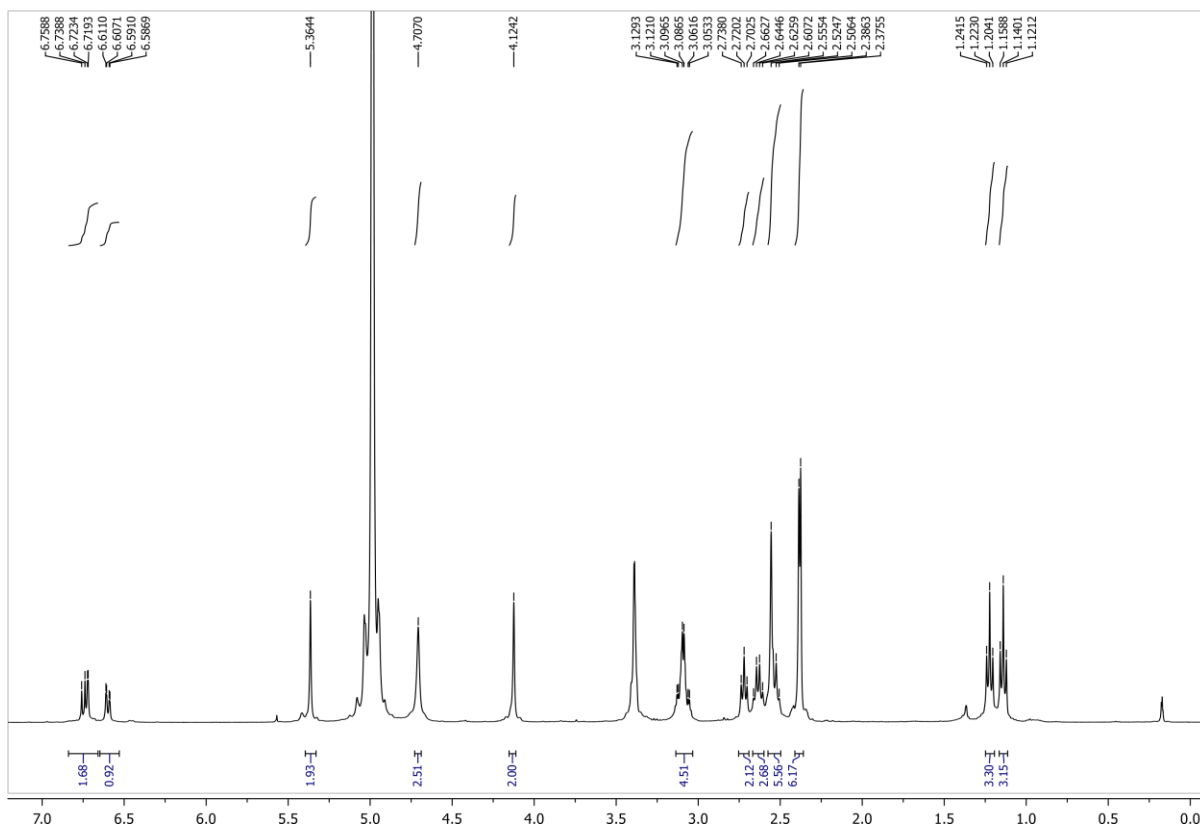


Figure 25.  $^1\text{H}$  (400 MHz,  $\text{CD}_3\text{OD}$ ): **15**

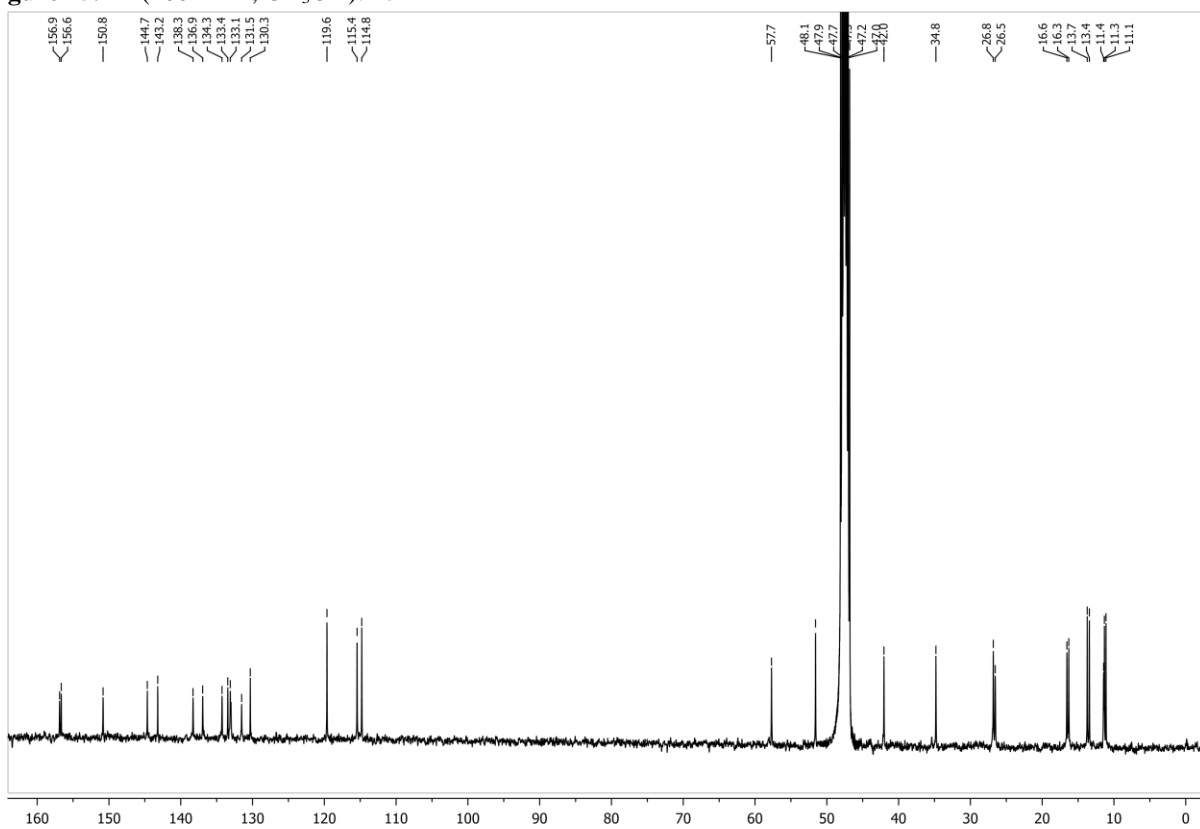


Figure 26.  $^{13}\text{C}$  (101 MHz,  $\text{CD}_3\text{OD}$ ): **15**

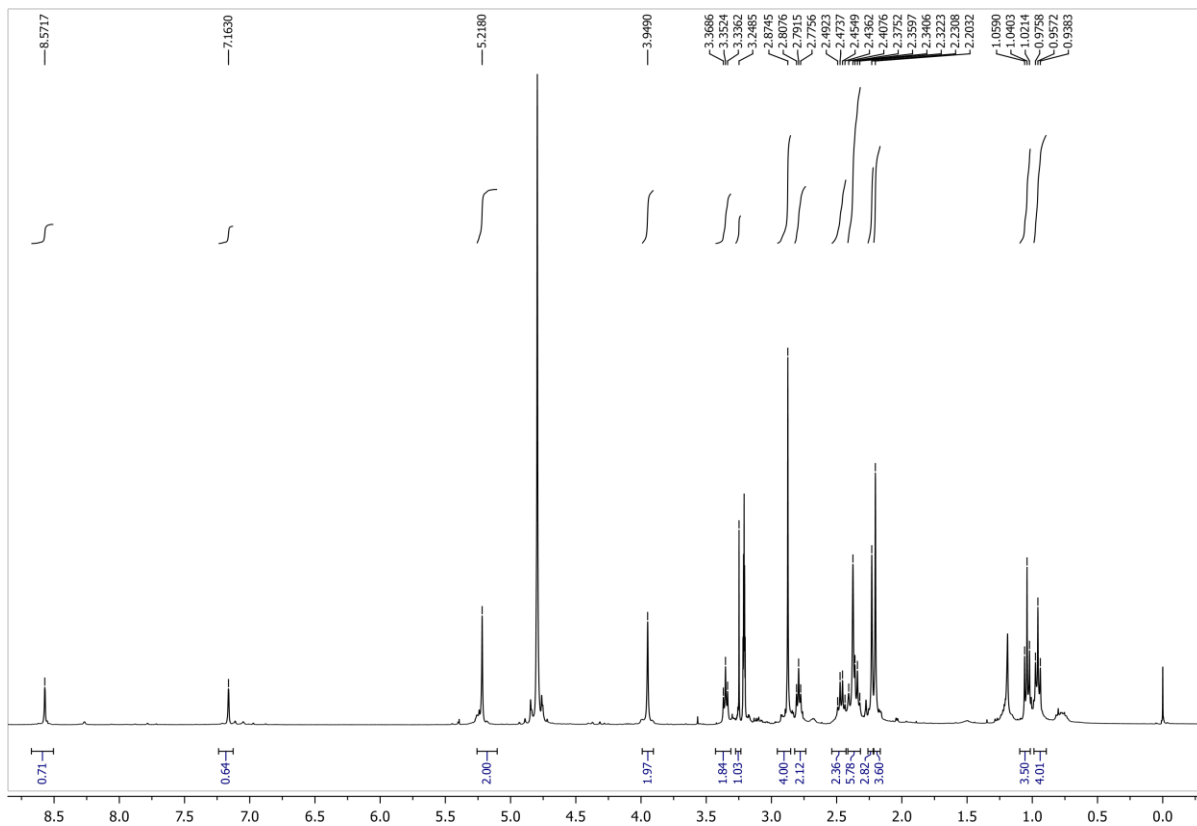


Figure 27.  $^1\text{H}$  (400 MHz,  $\text{CD}_3\text{OD}$ ): **16**

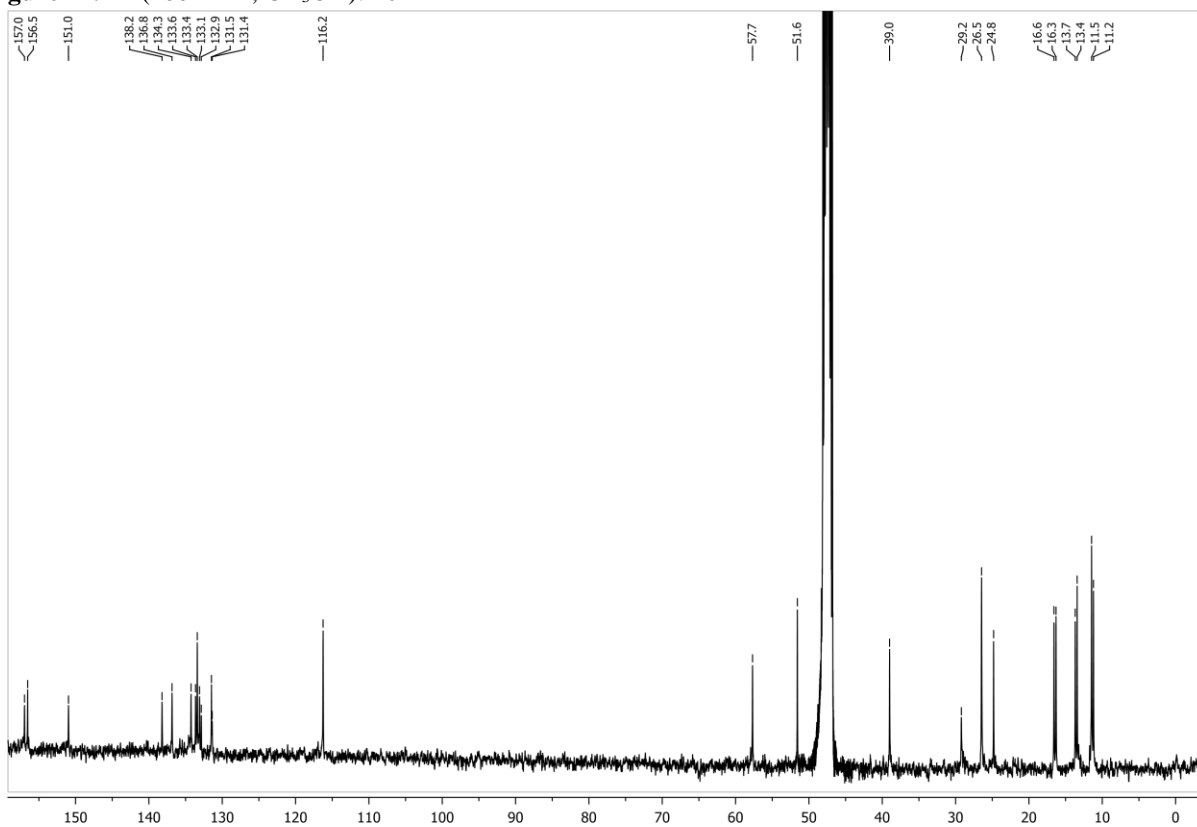


Figure 28.  $^{13}\text{C}$  (101 MHz,  $\text{CD}_3\text{OD}$ ): **16**

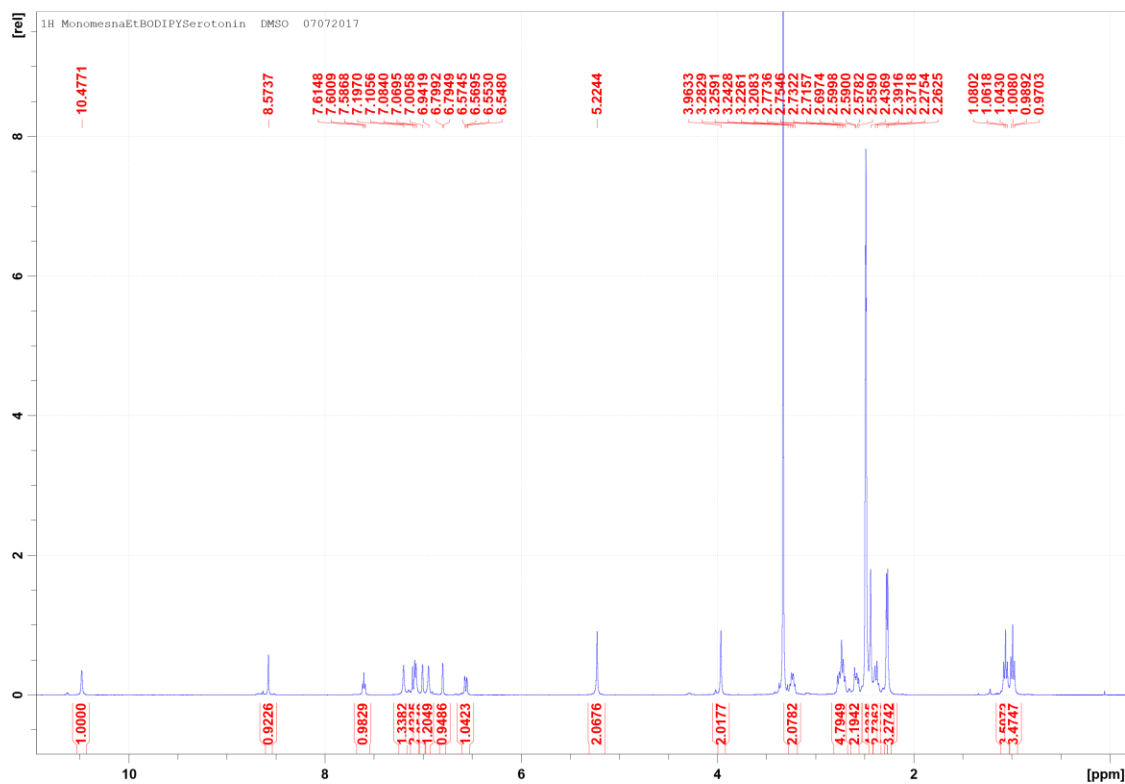


Figure 29. <sup>1</sup>H (400 MHz, DMSO-d<sub>6</sub>): 17

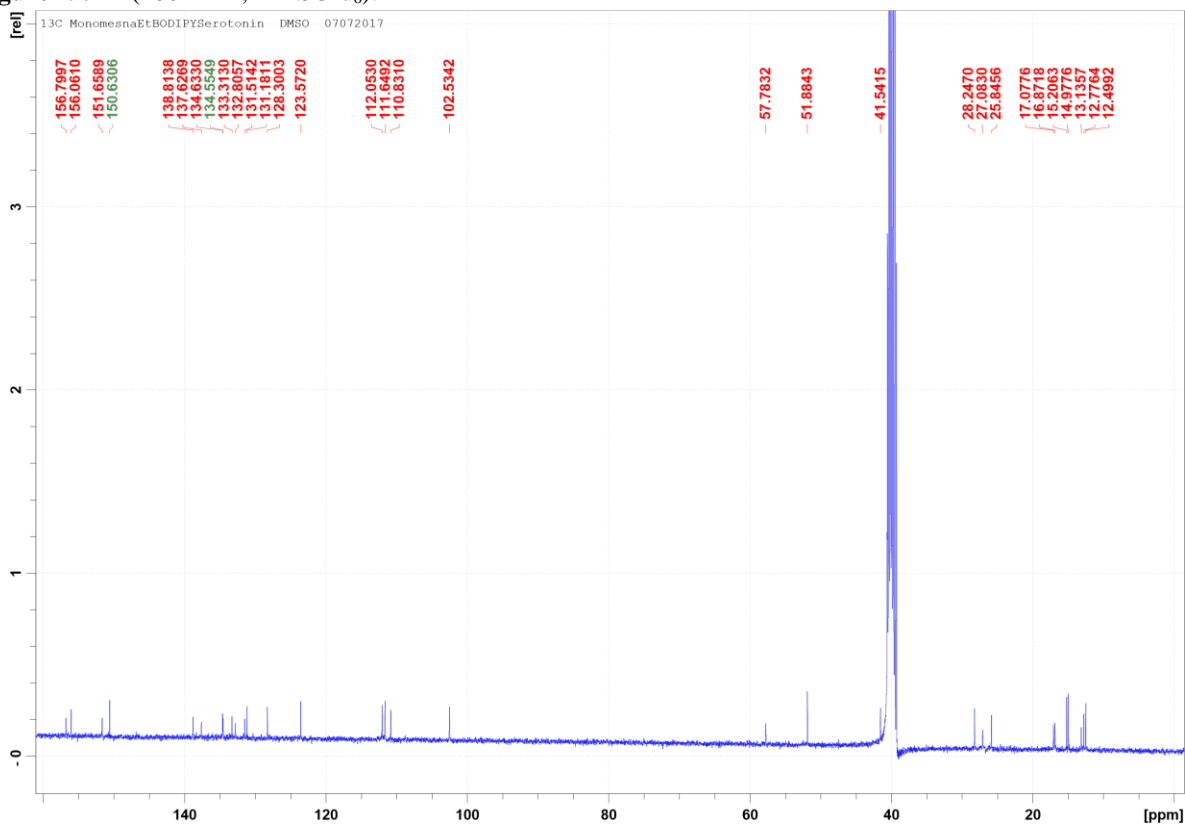
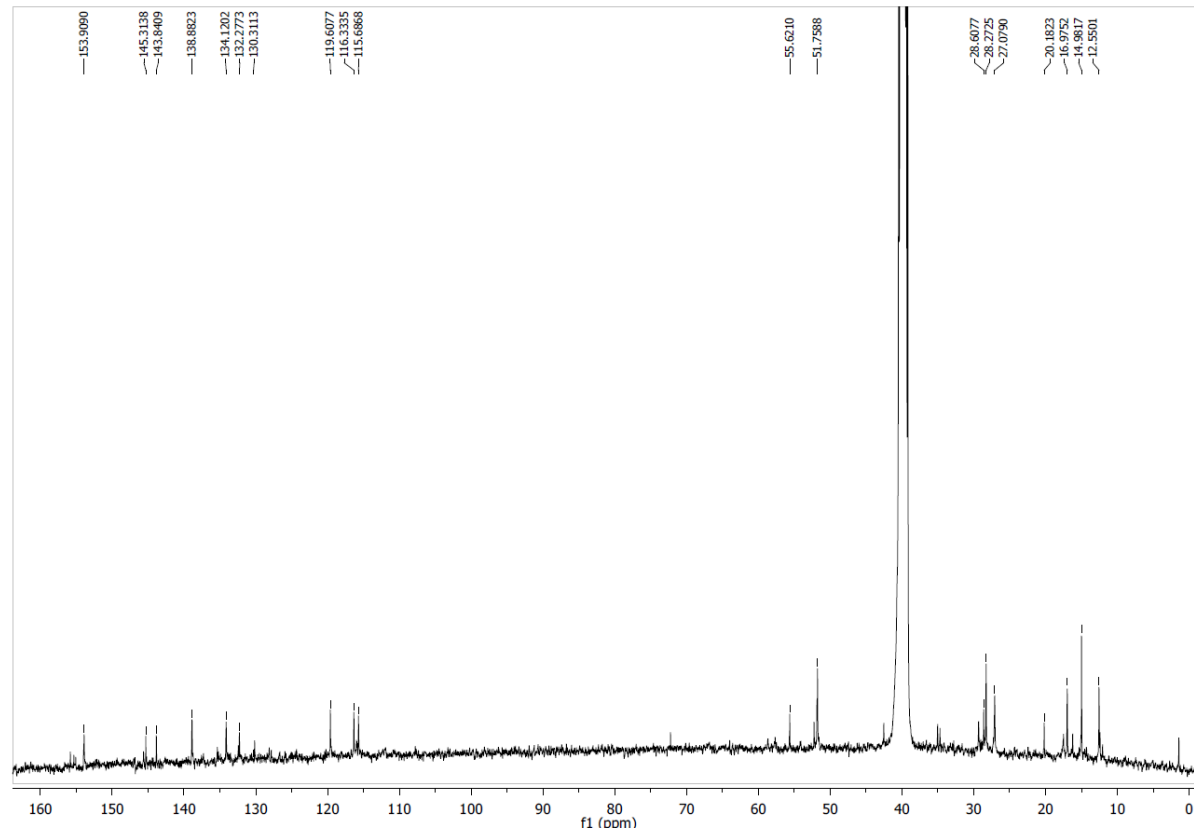
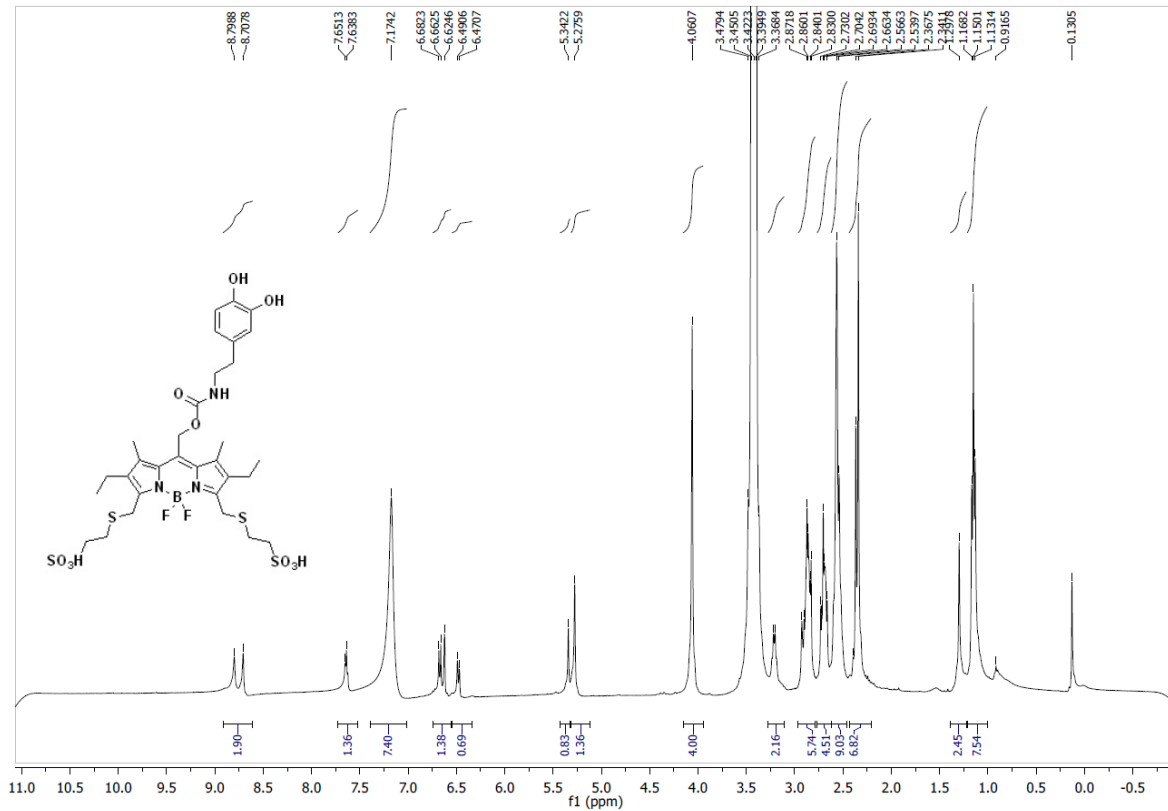


Figure 30. <sup>13</sup>C (101 MHz, DMSO-d<sub>6</sub>): 17







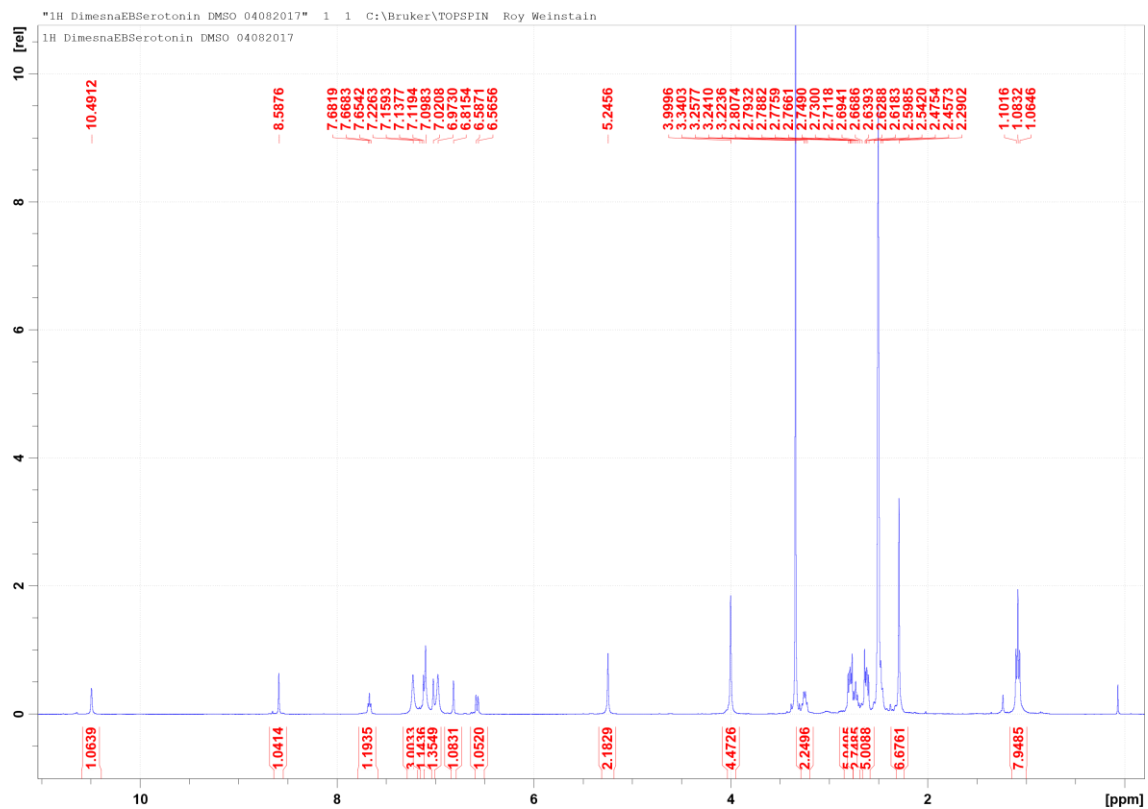


Figure 35.  $^1\text{H}$  (400 MHz,  $\text{DMSO-d}_6$ ): 20

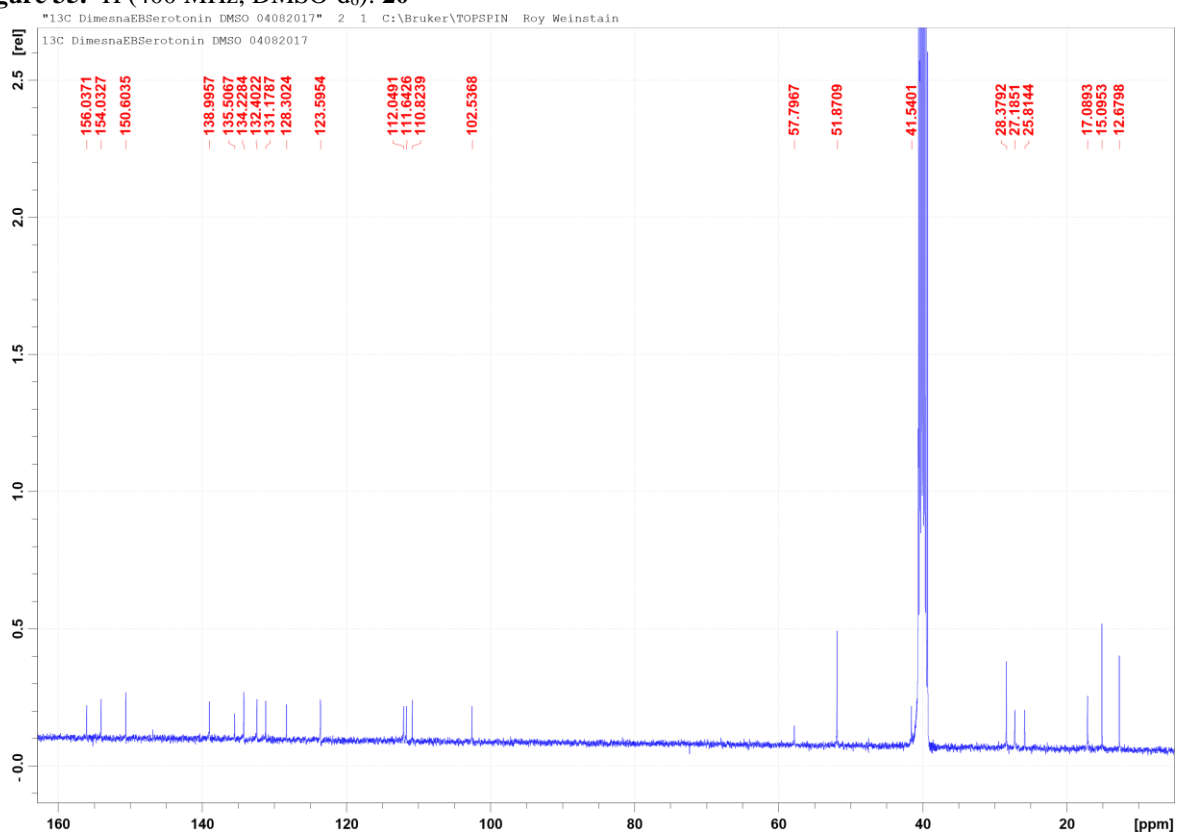


Figure 36.  $^{13}\text{C}$  (101 MHz,  $\text{DMSO-d}_6$ ): 20

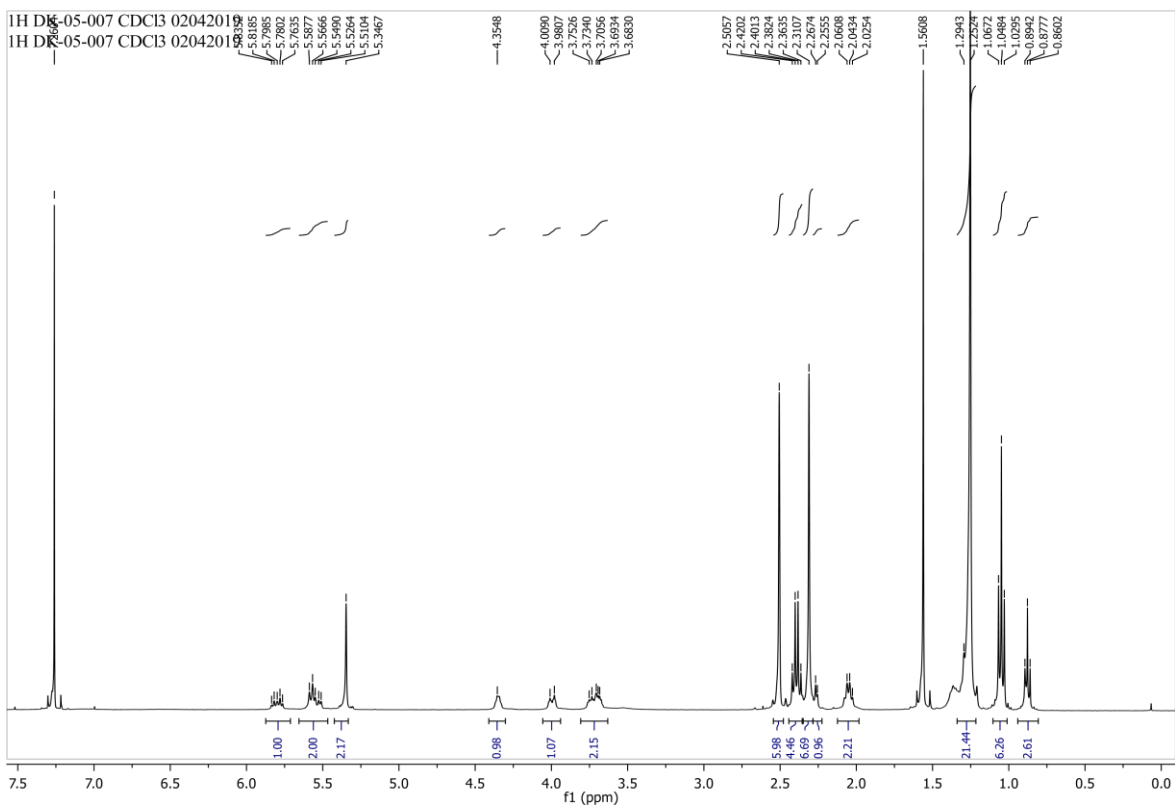


Figure 37. <sup>1</sup>H (400 MHz, CDCl<sub>3</sub>): 21

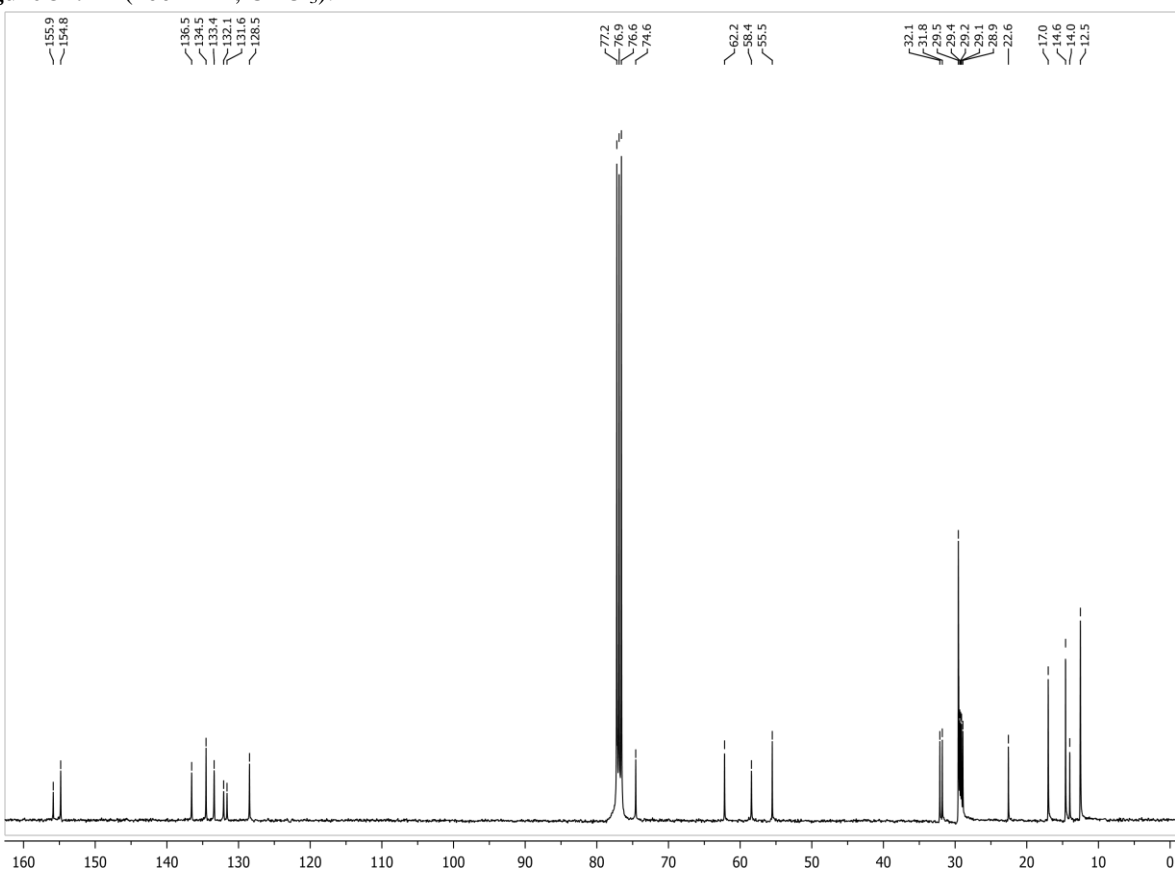


Figure 38. <sup>13</sup>C (101 MHz, CDCl<sub>3</sub>): 21

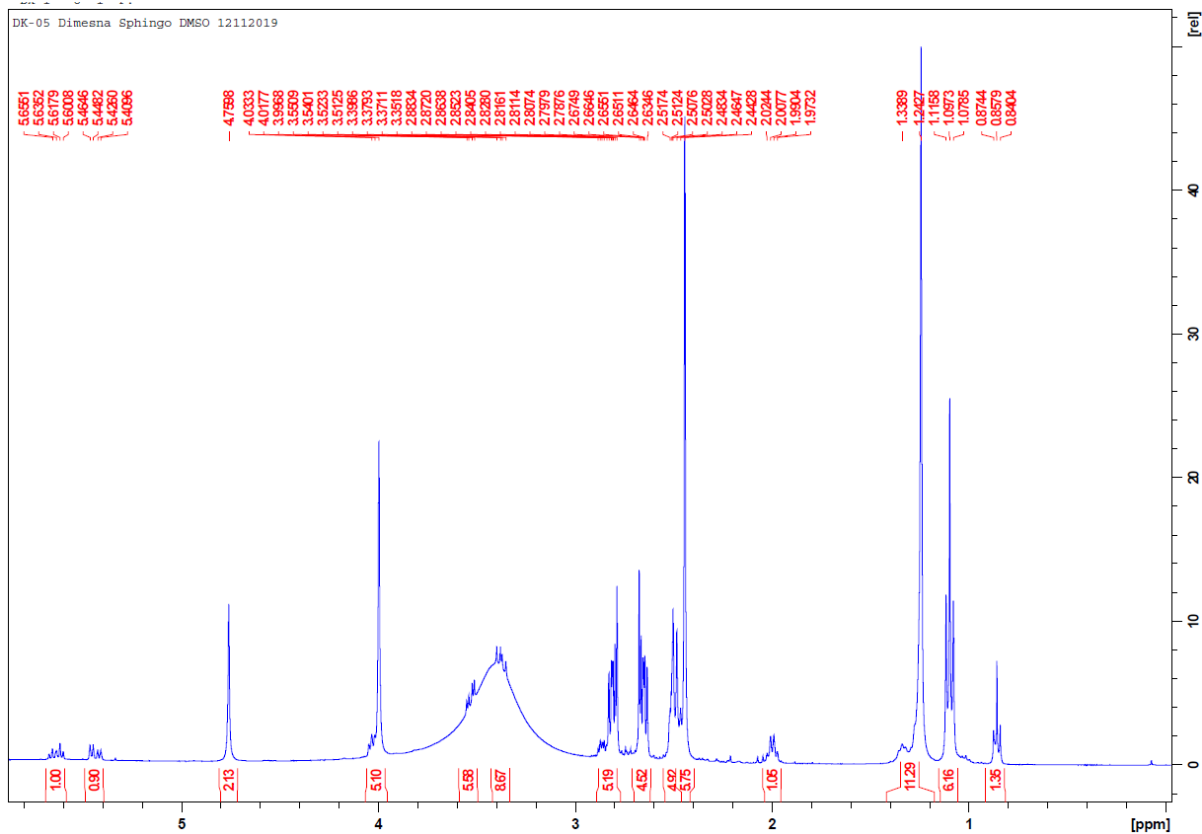


Figure 39.  $^1\text{H}$  (400 MHz,  $\text{DMSO-d}_6$ ): 22

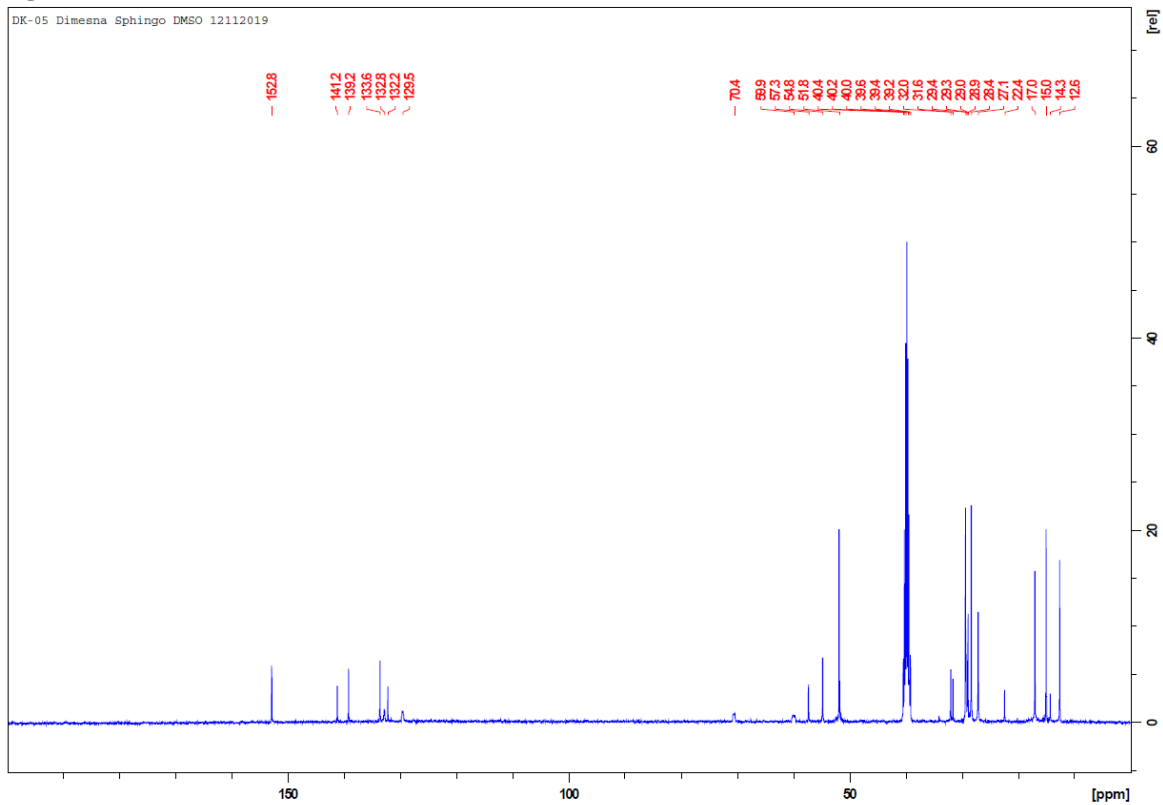


Figure 40.  $^{13}\text{C}$  (101 MHz,  $\text{DMSO-d}_6$ ): 22