

## Chemical Synthesis of the Organoarsenical Antibiotic Arsinothricin

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## SUPPORTING INFORMATION

- |   |        |
|---|--------|
| 1. RP-HPLC traces after derivatization of AST with Marfey's reagent (Figure S1)   | S2     |
| 2. Copies of <sup>1</sup> H, <sup>13</sup> C NMR and HRMS spectra (Figure S2-S17) | S3-S18 |

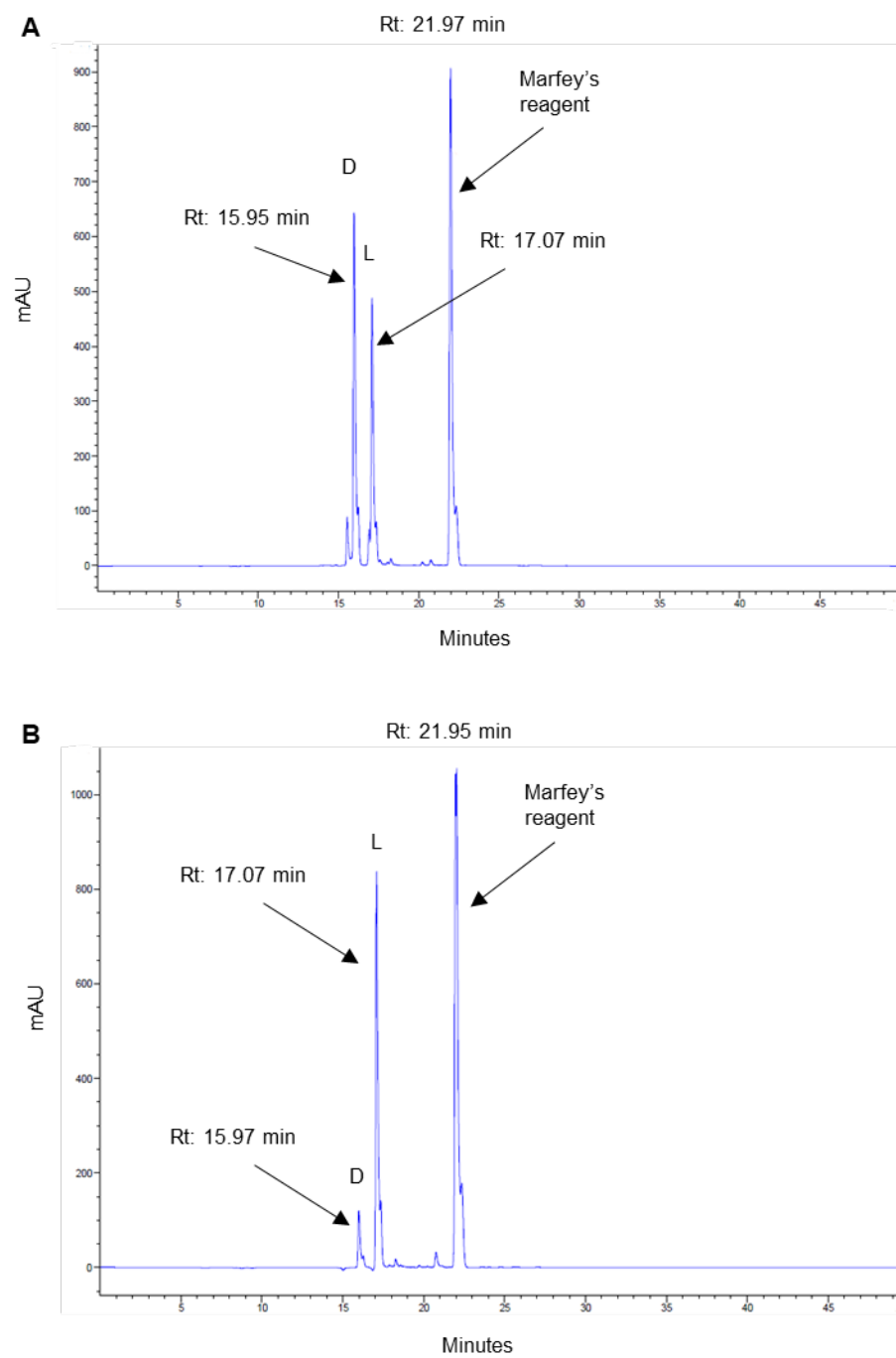


Figure S1. RP-HPLC traces after derivatization with Marfey's reagent: **A**, D/L-AST; **B**, L-AST

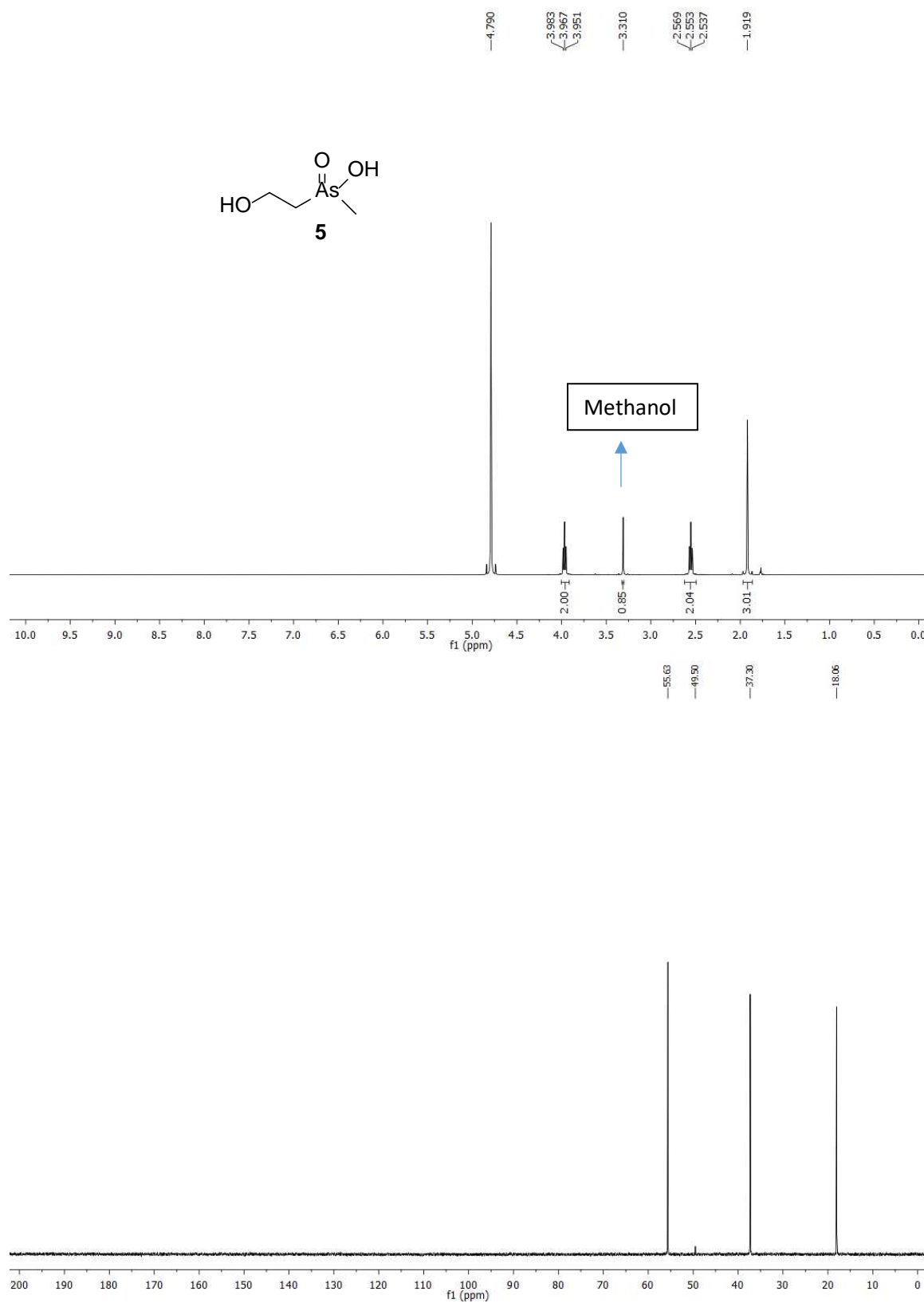


Figure S2. <sup>1</sup>H NMR and <sup>13</sup>C NMR spectra of compound **5** in D<sub>2</sub>O.

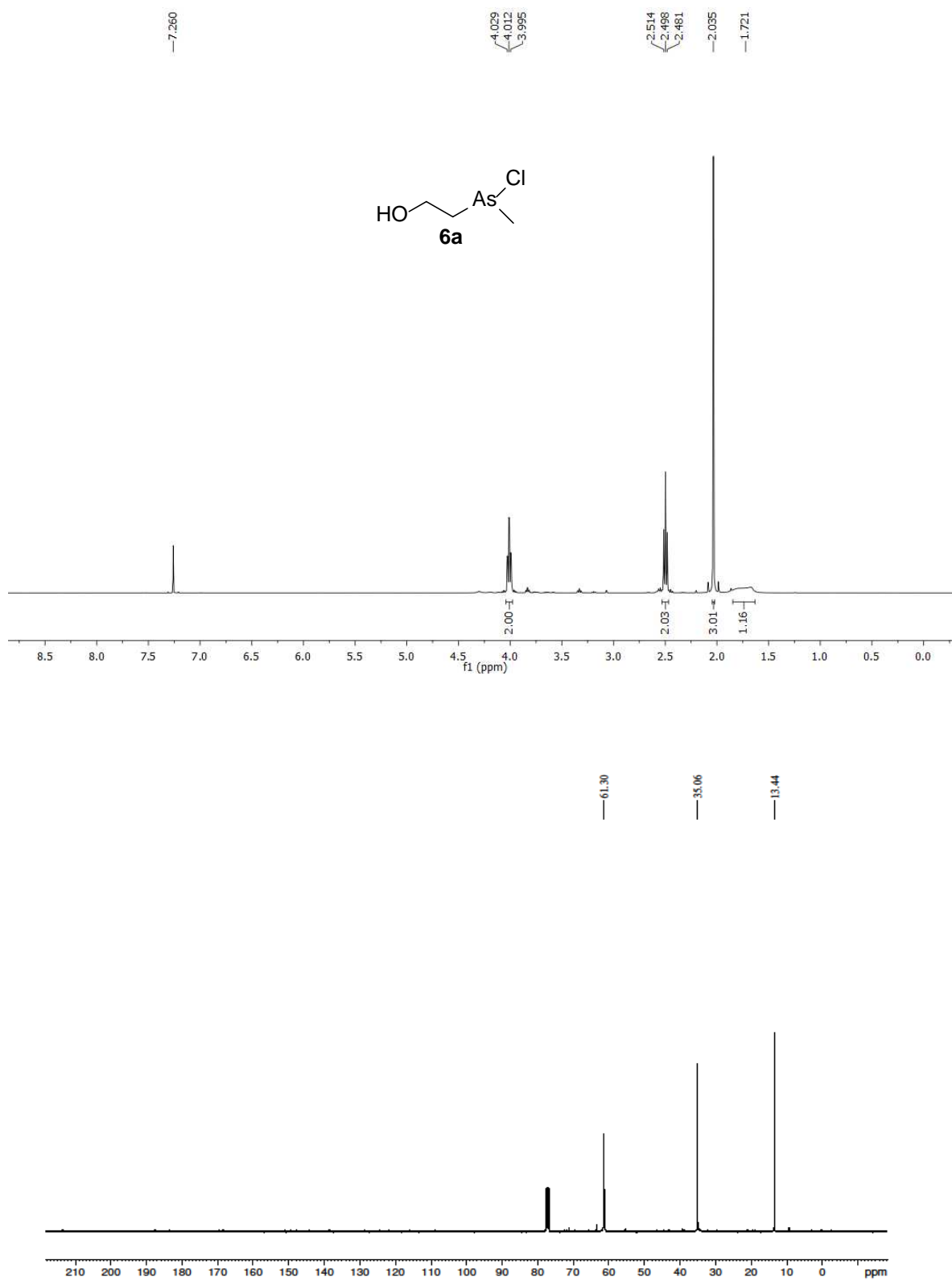


Figure S3. <sup>1</sup>H NMR and <sup>13</sup>C NMR spectra of compound **6a** in CDCl<sub>3</sub>.

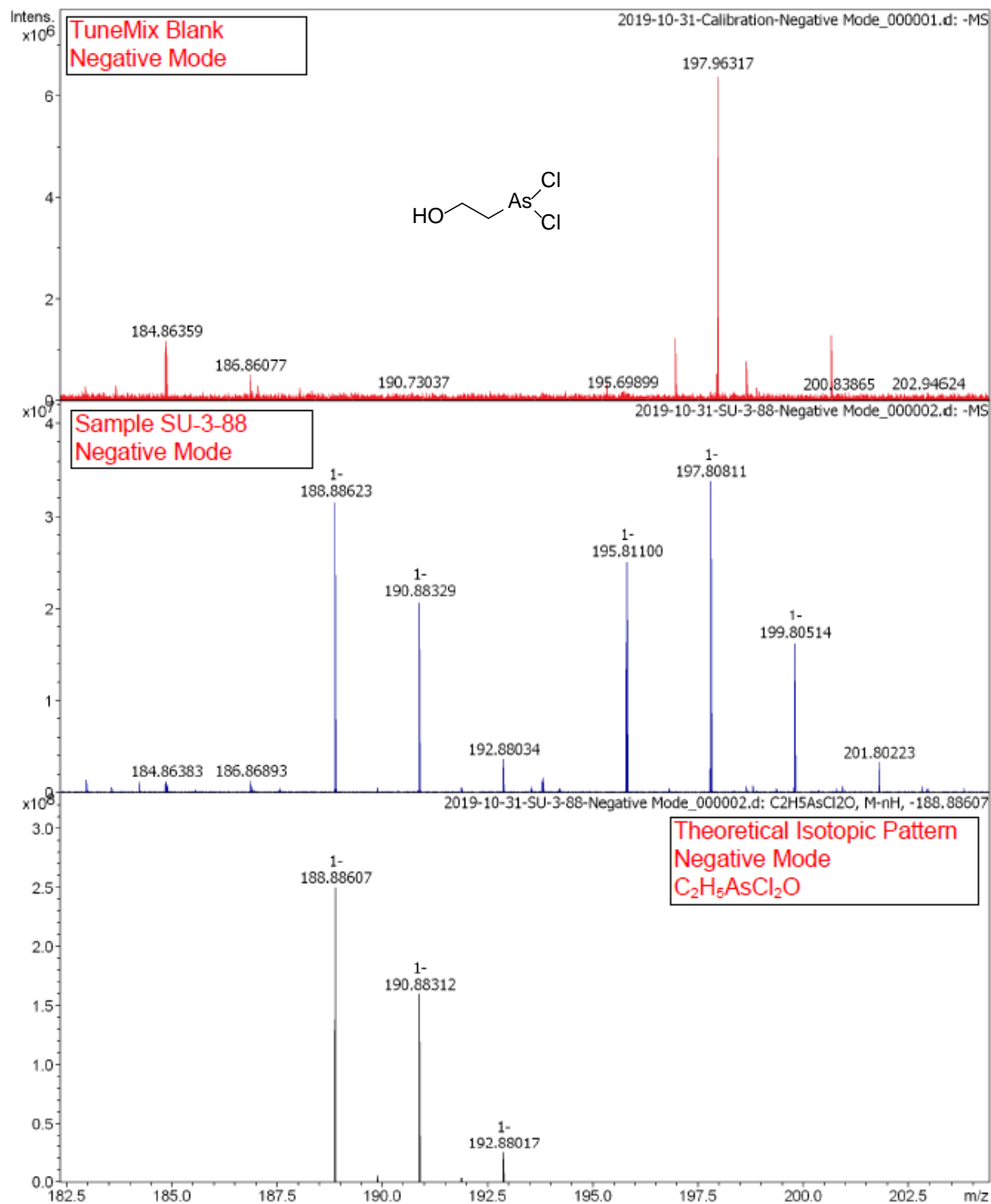


Figure S4. HRMS spectrum of dichloro(2-hydroxyethyl)arsine.

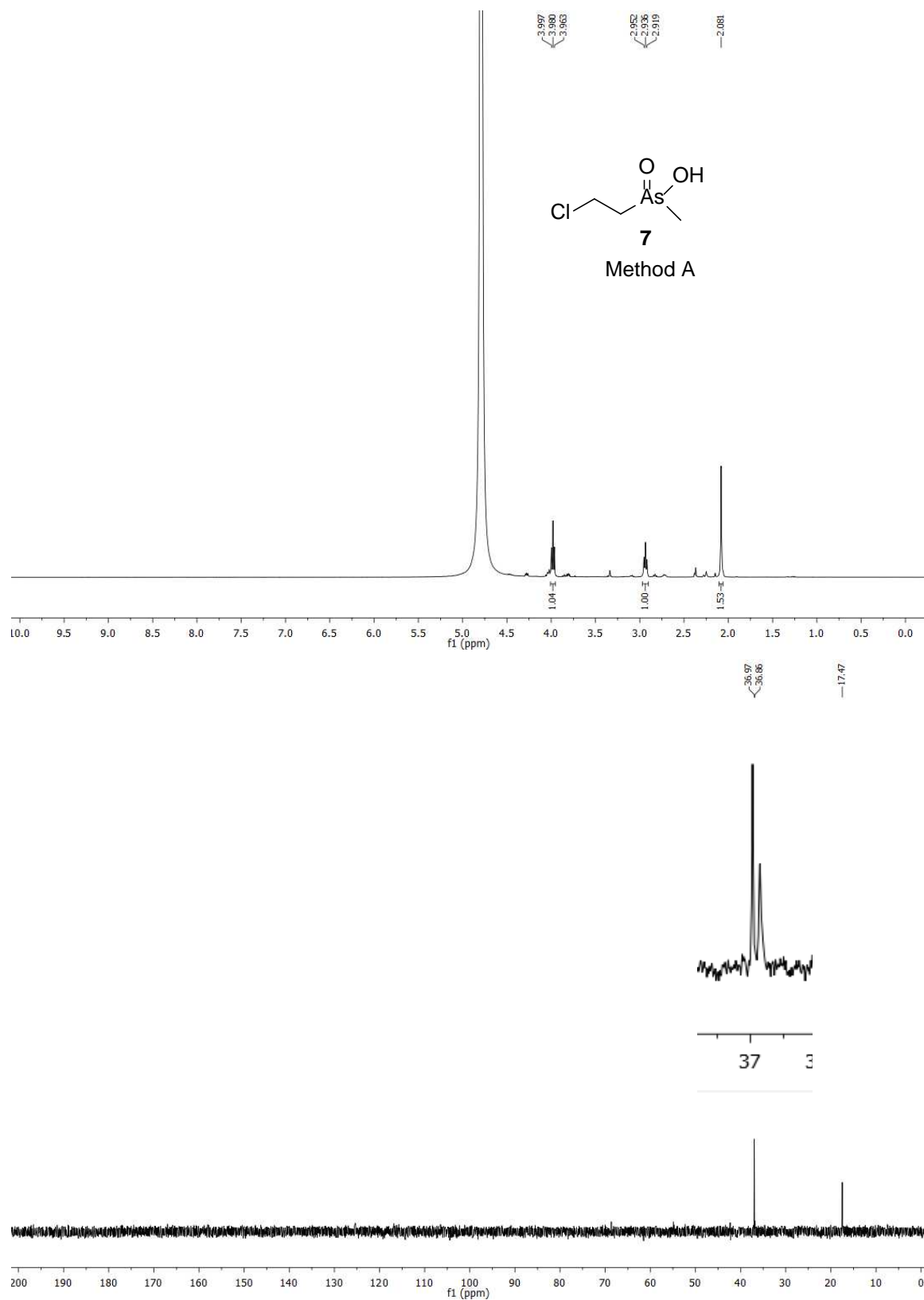


Figure S5. <sup>1</sup>H NMR and <sup>13</sup>C NMR spectra of compound **7** from method A in D<sub>2</sub>O.

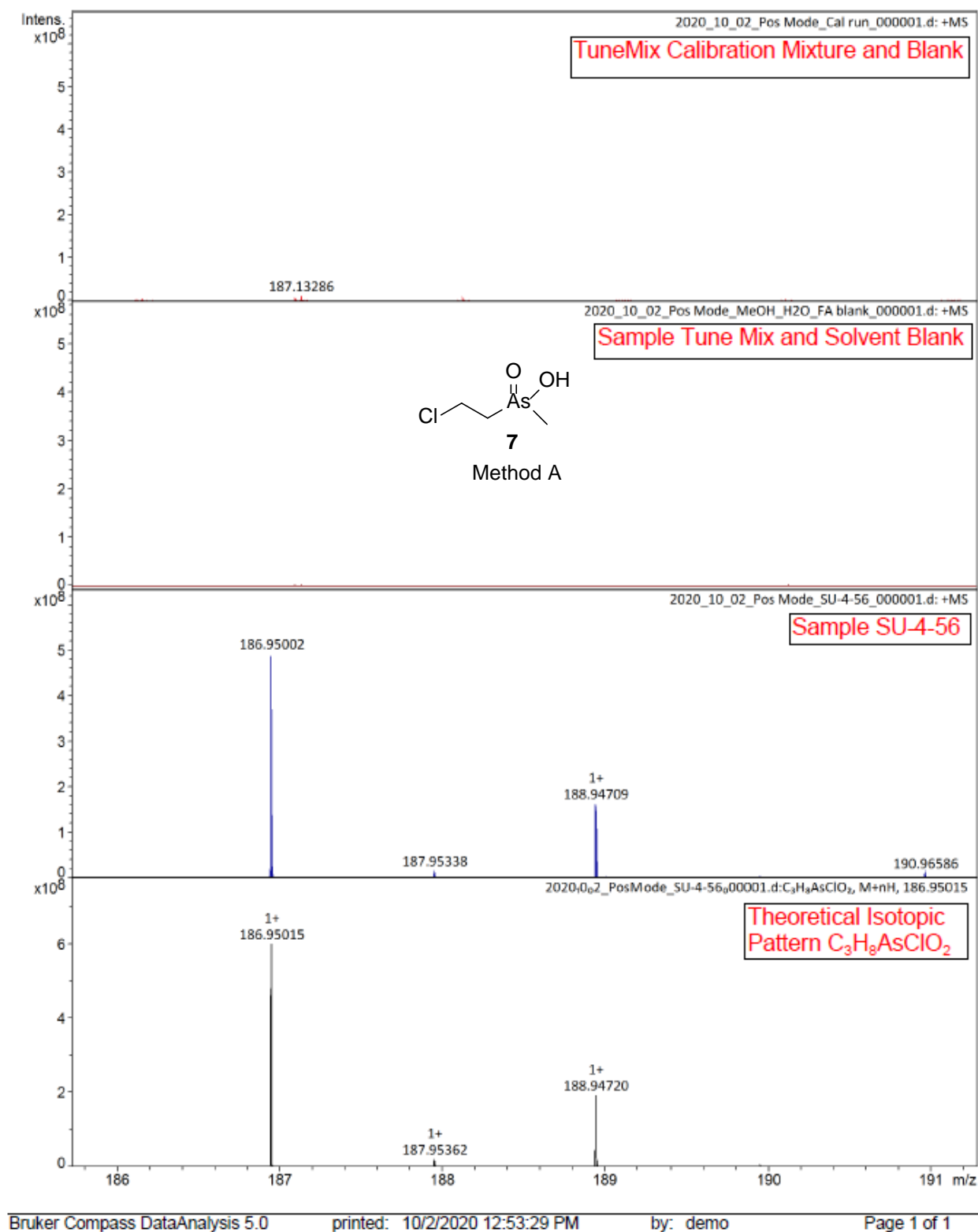


Figure S6. HRMS spectrum of compound 7.

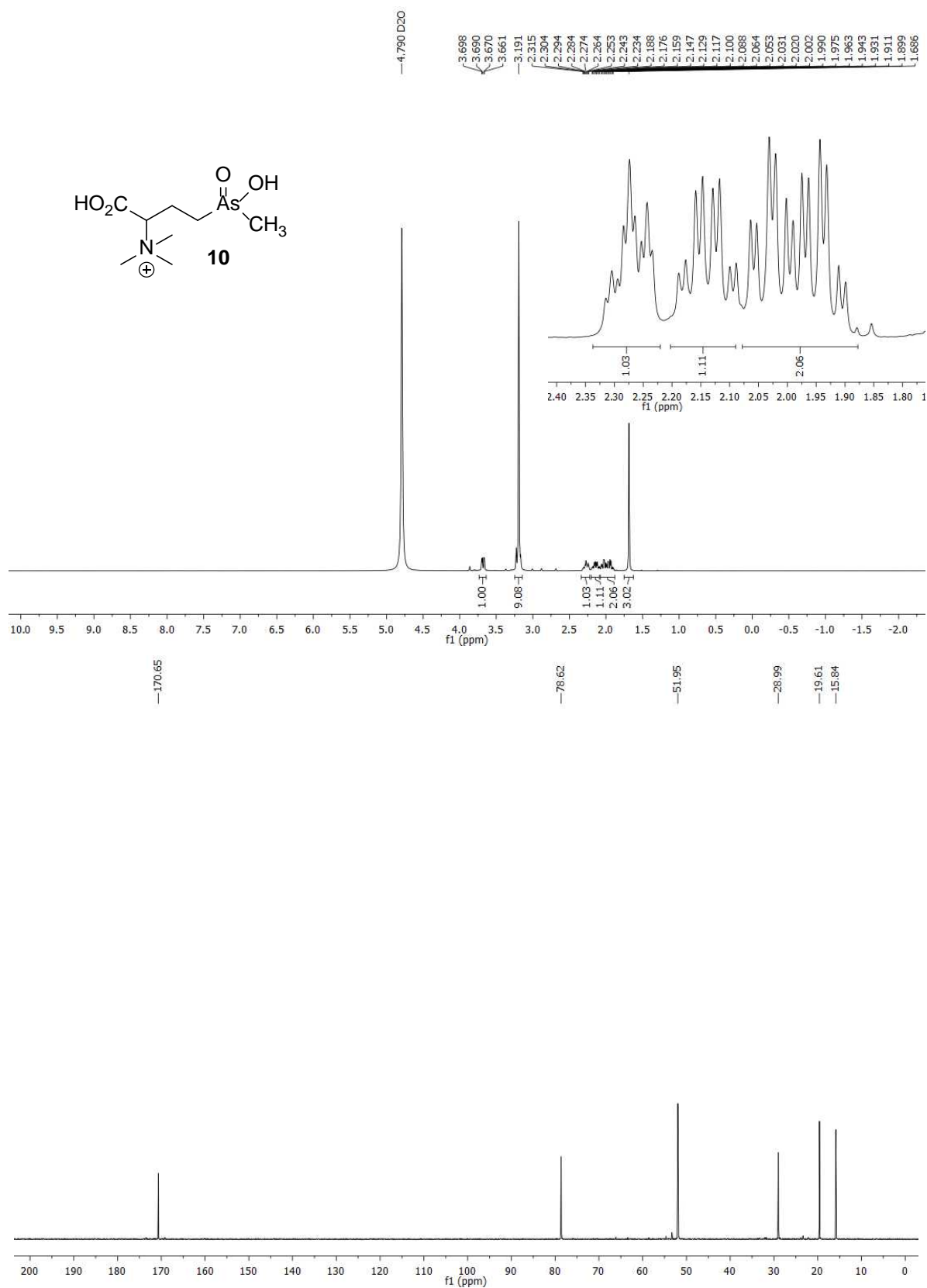


Figure S7. <sup>1</sup>H NMR and <sup>13</sup>C NMR spectra of compound **10** in D<sub>2</sub>O.



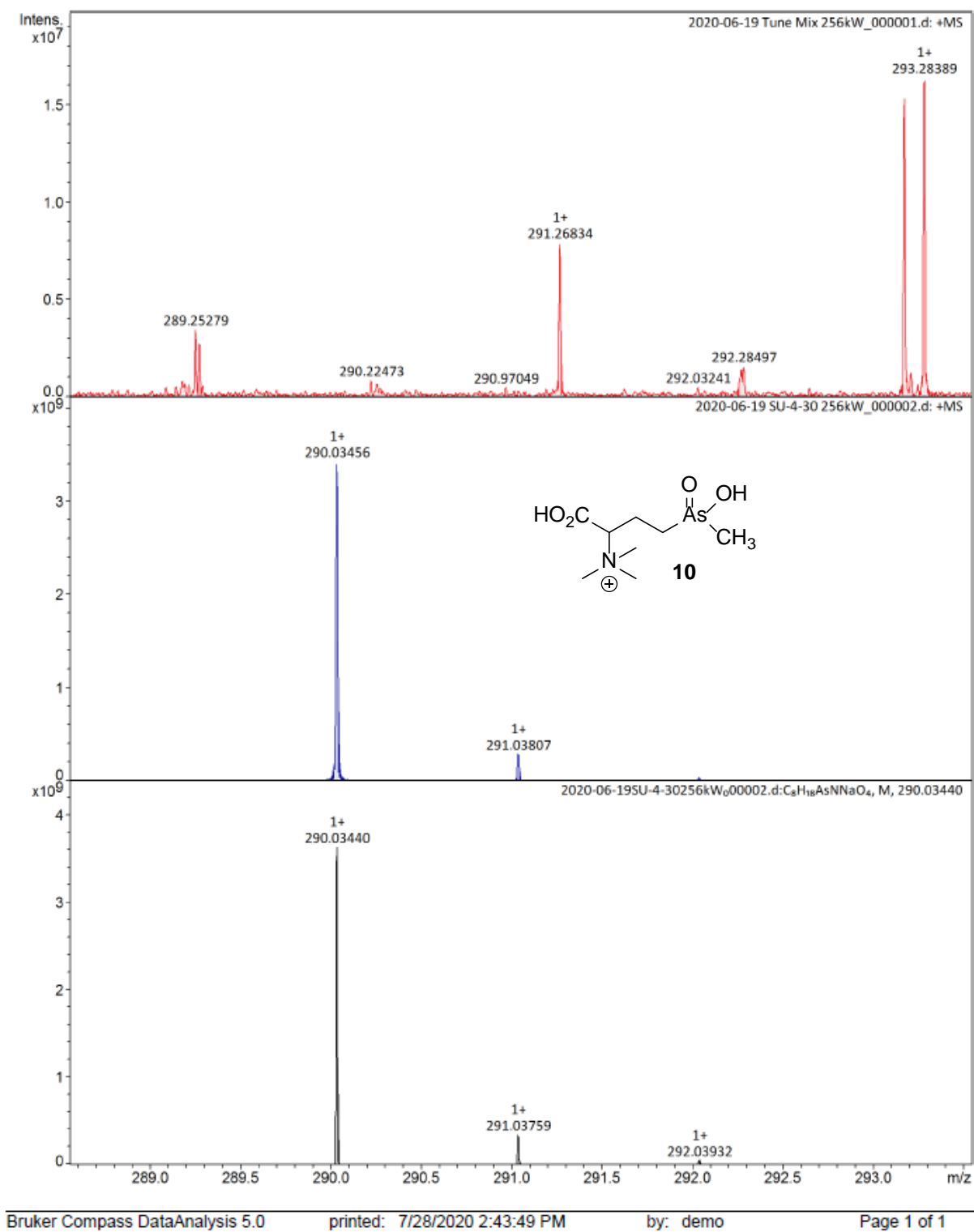


Figure S8. HRMS spectrum of compound **10**.

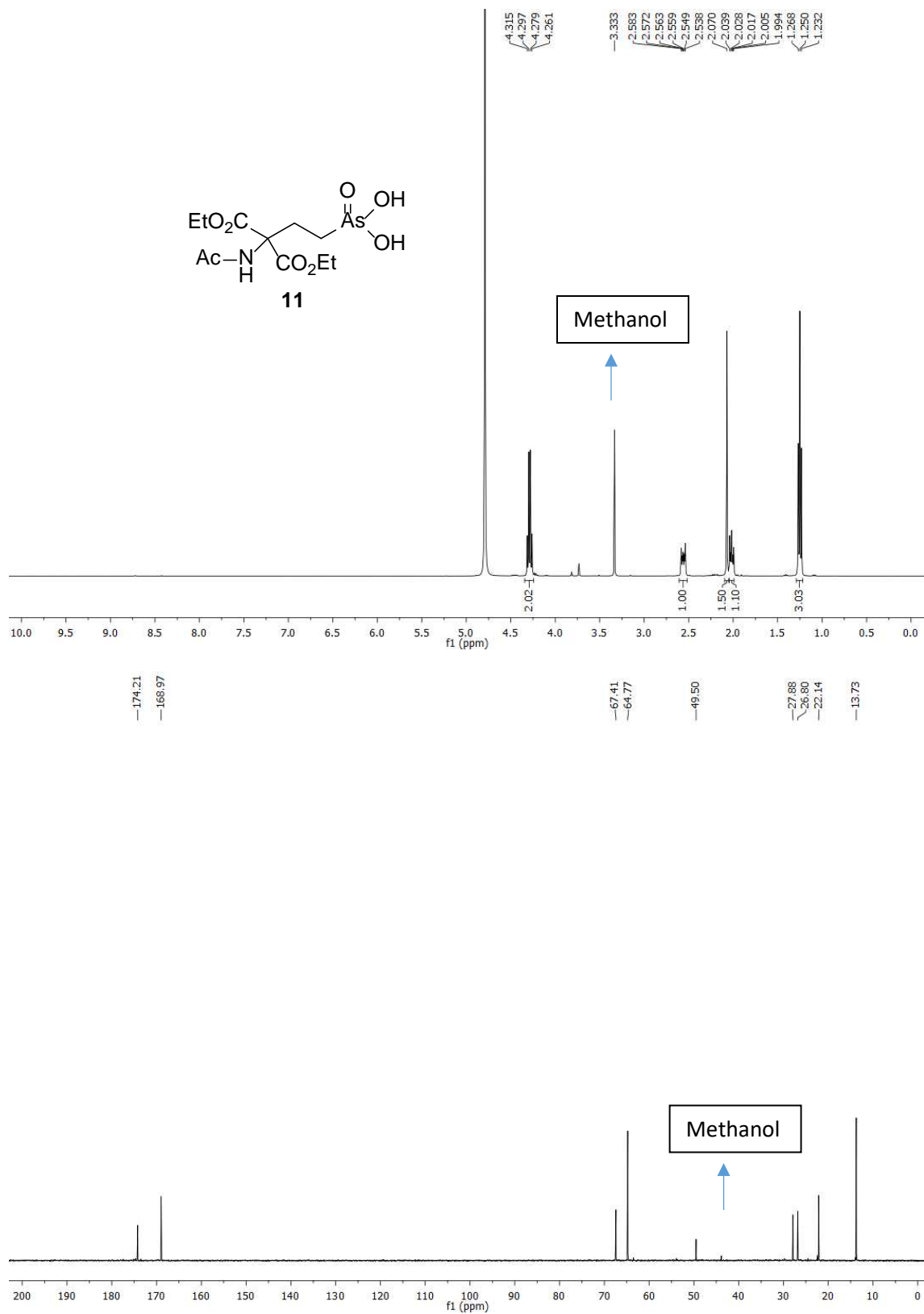


Figure S9.  $^1\text{H}$  NMR and  $^{13}\text{C}$  NMR spectra of compound **11** in  $\text{D}_2\text{O}$ .

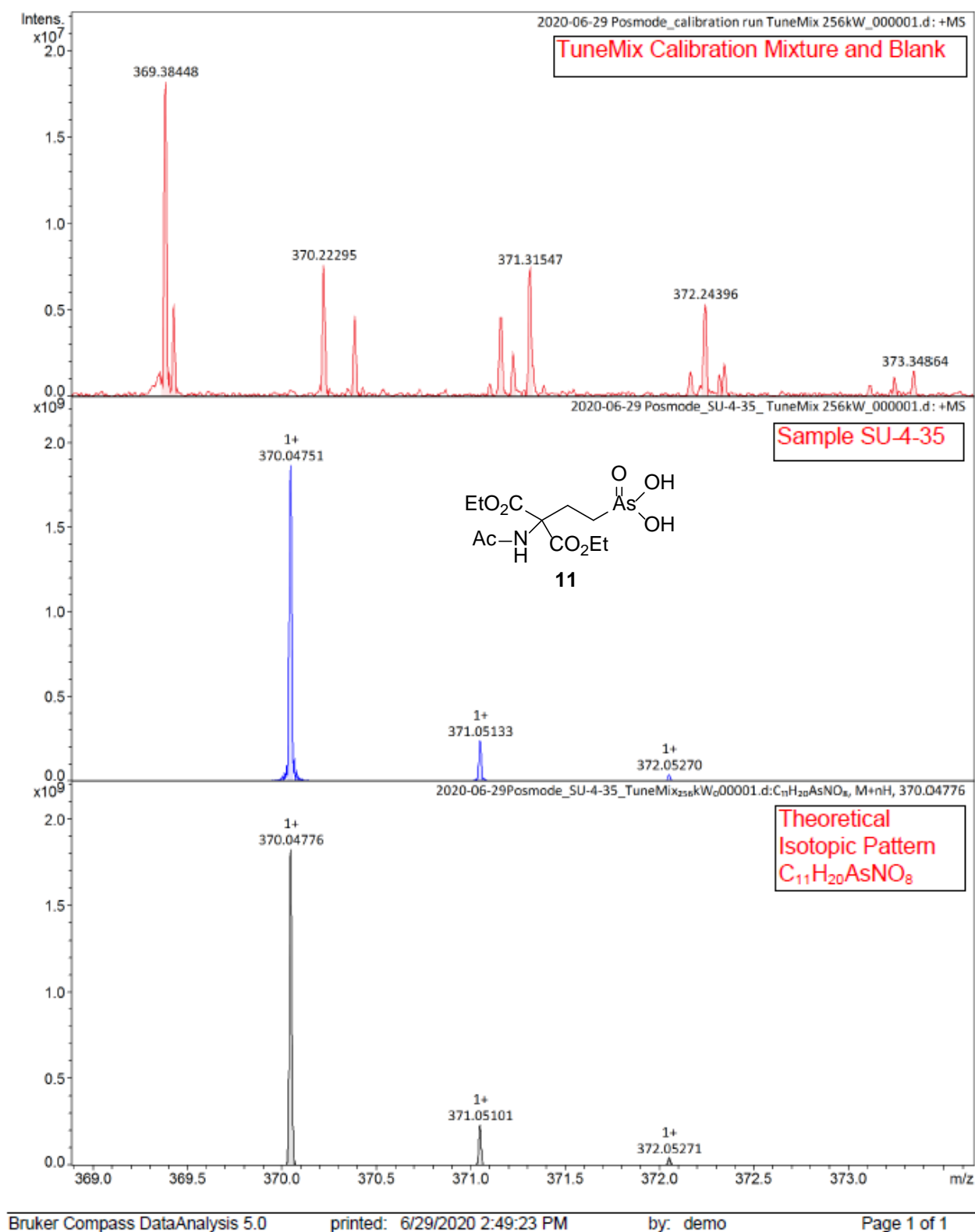


Figure S10. HRMS spectrum of compound **11**.

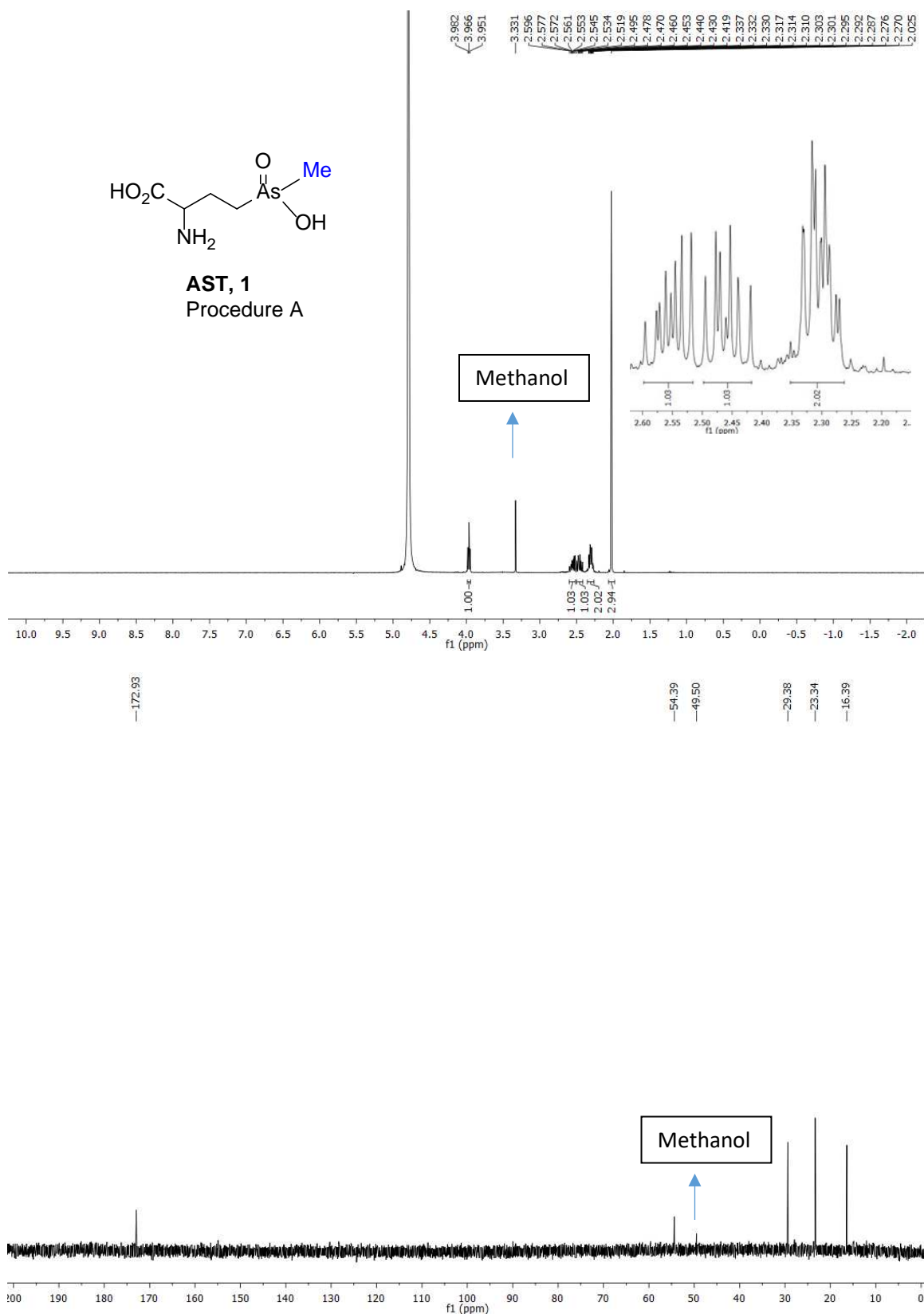


Figure S11. <sup>1</sup>H NMR and <sup>13</sup>C NMR spectra of compound **1** from procedure A in D<sub>2</sub>O.





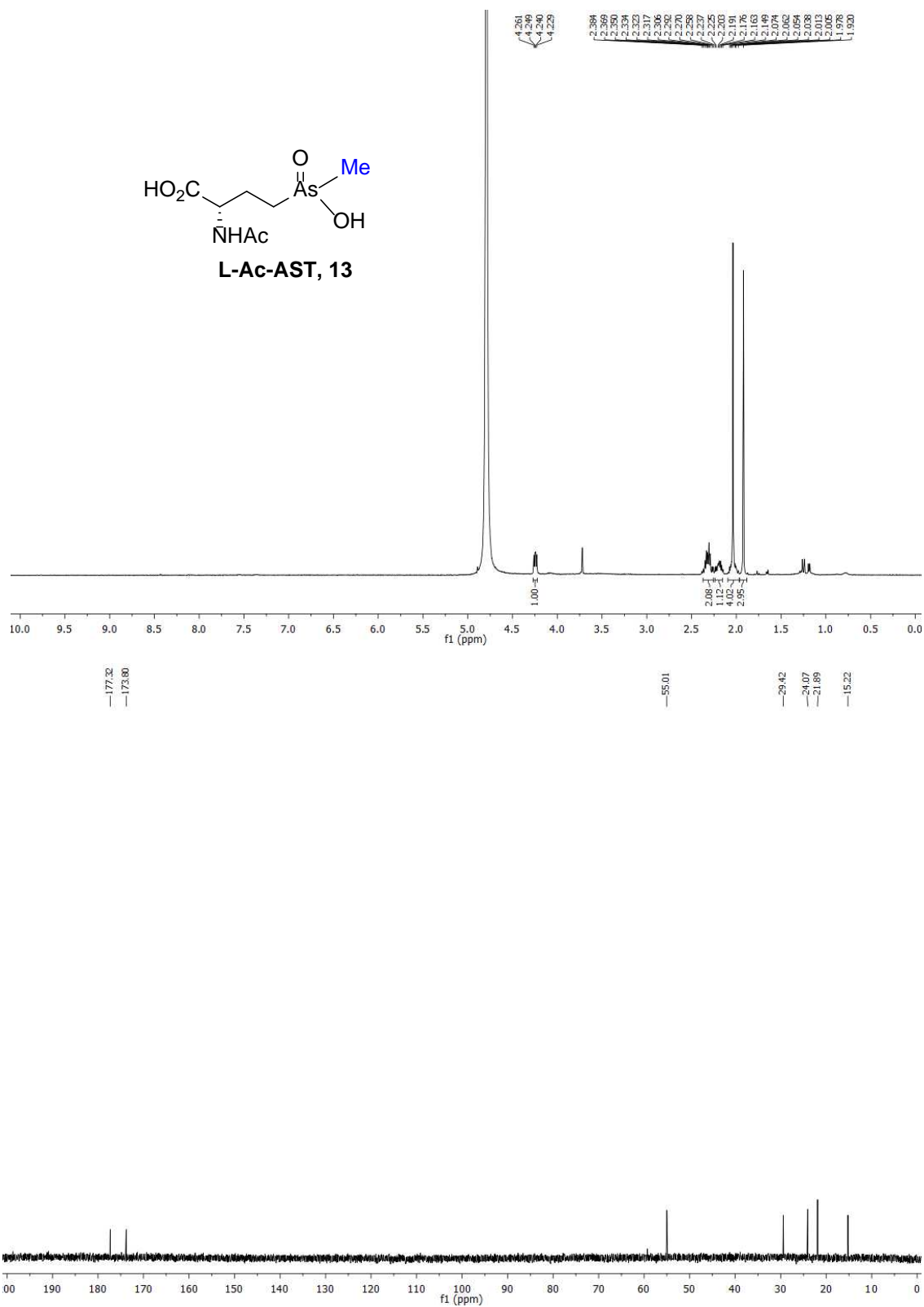


Figure S14. <sup>1</sup>H NMR and <sup>13</sup>C NMR spectra of compound **13** in D<sub>2</sub>O.

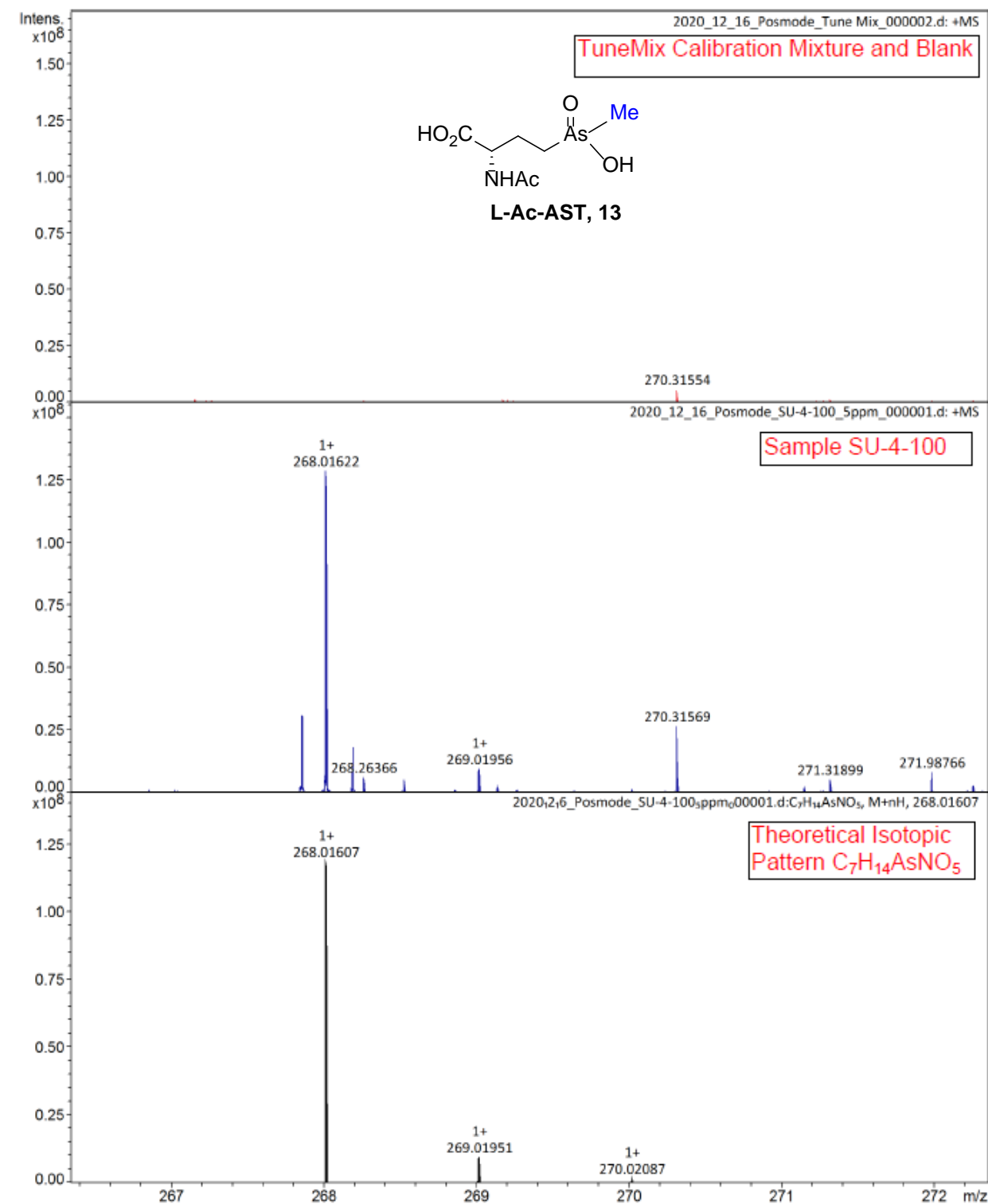


Figure S15. HRMS spectrum of compound **13**.



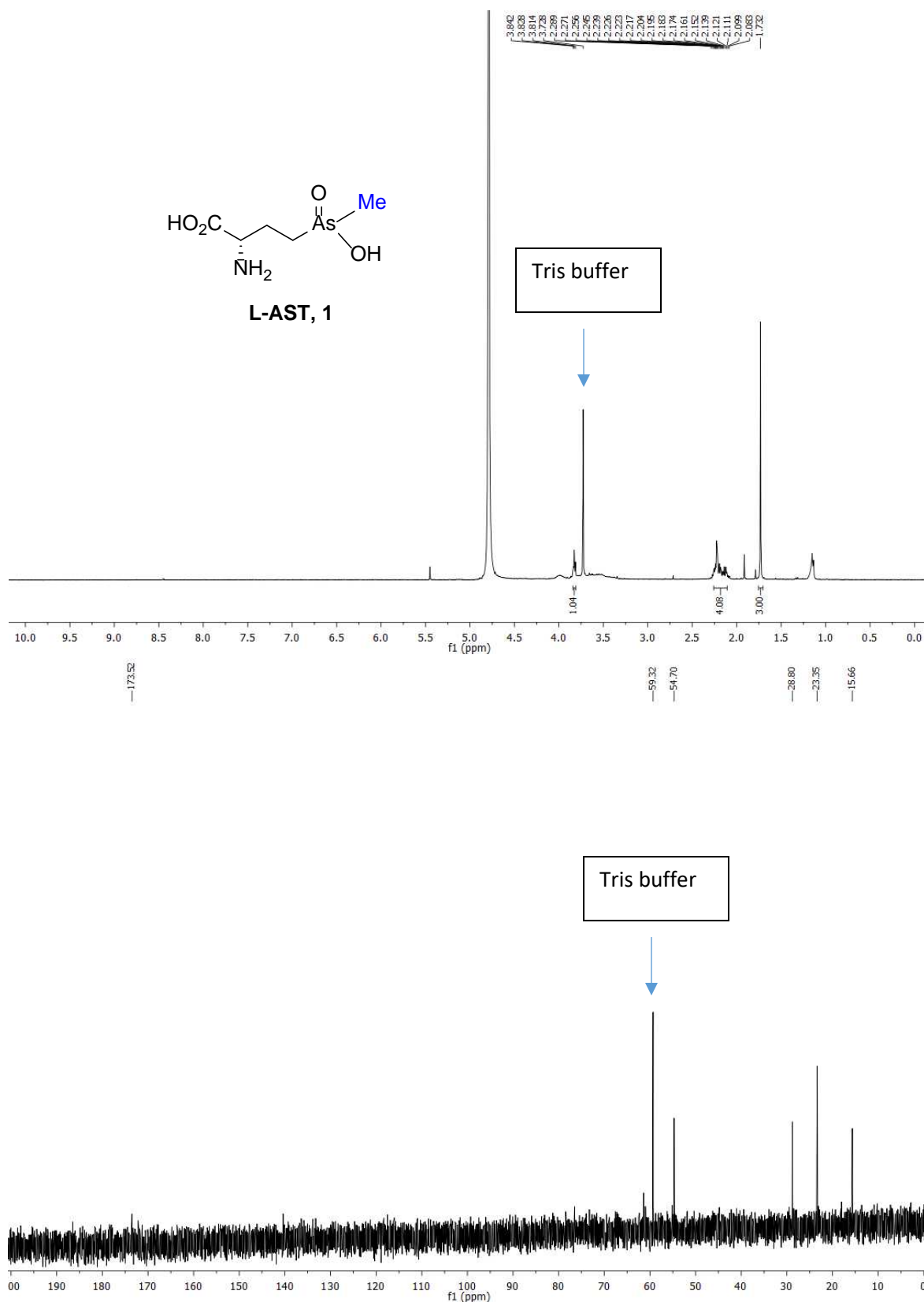


Figure S16. <sup>1</sup>H NMR and <sup>13</sup>C NMR spectra of L-AST in D<sub>2</sub>O.

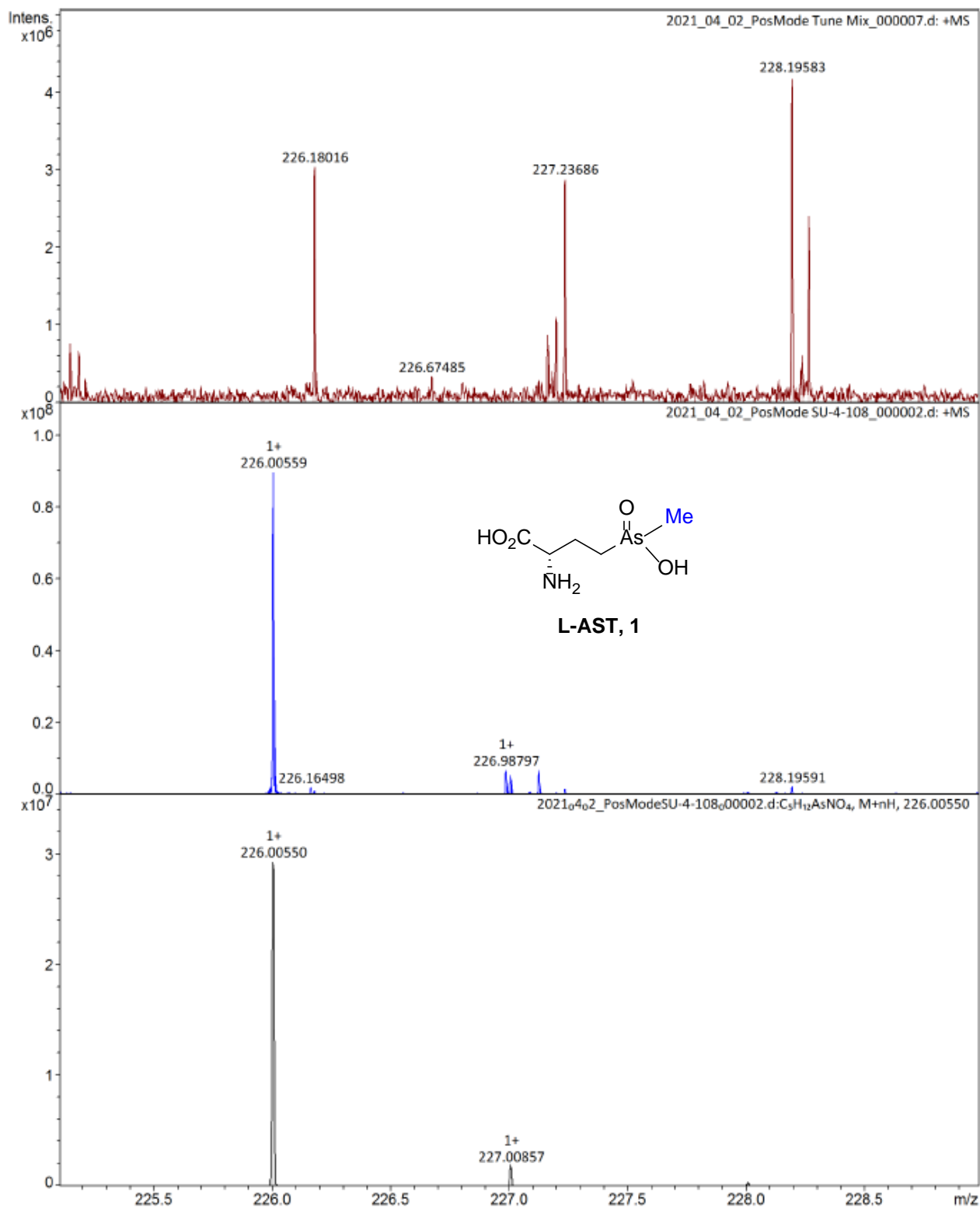


Figure S17. HRMS spectrum of L-AST