



*Supplement of*

**Technical note: Improved synthetic routes to *cis*- and *trans*-(2-methyloxirane-2,3-diyl)dimethanol (*cis*- and *trans*- $\beta$ -isoprene epoxydiol)**

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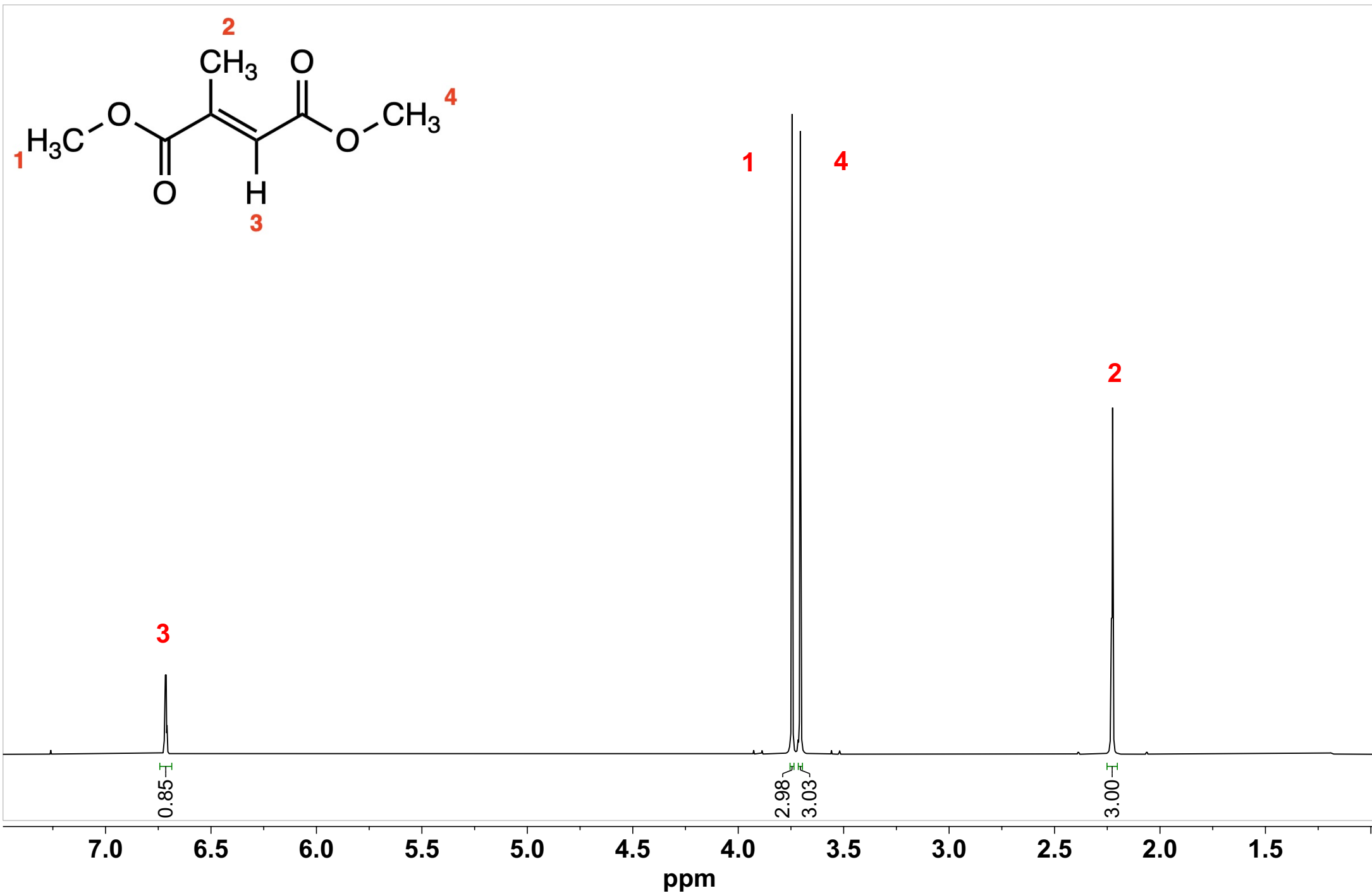


Figure S1. <sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O) mesaconic acid dimethyl ester .

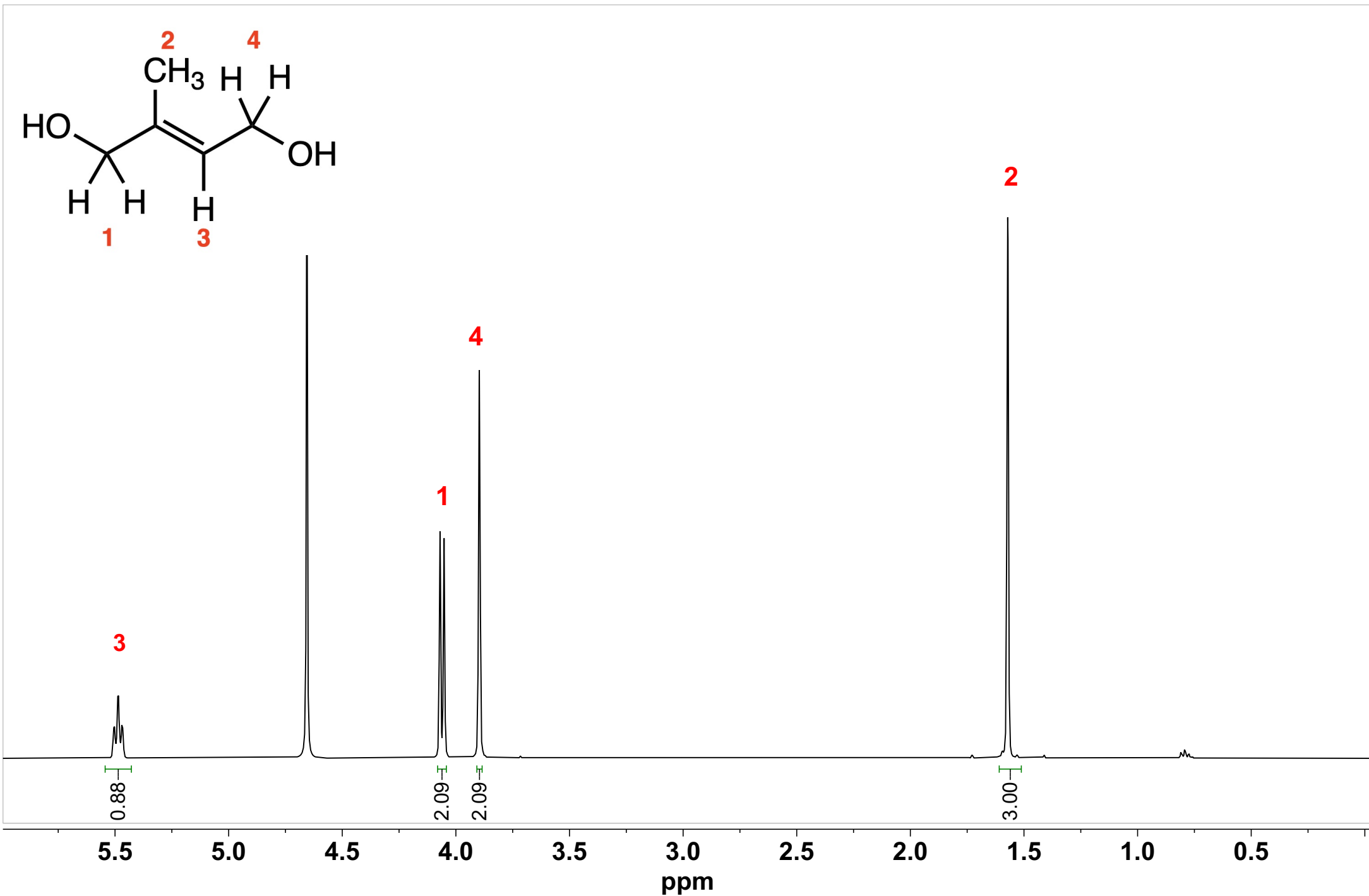


Figure S2. <sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O) *E*-2-methylbut-2-ene-1,4-diol.

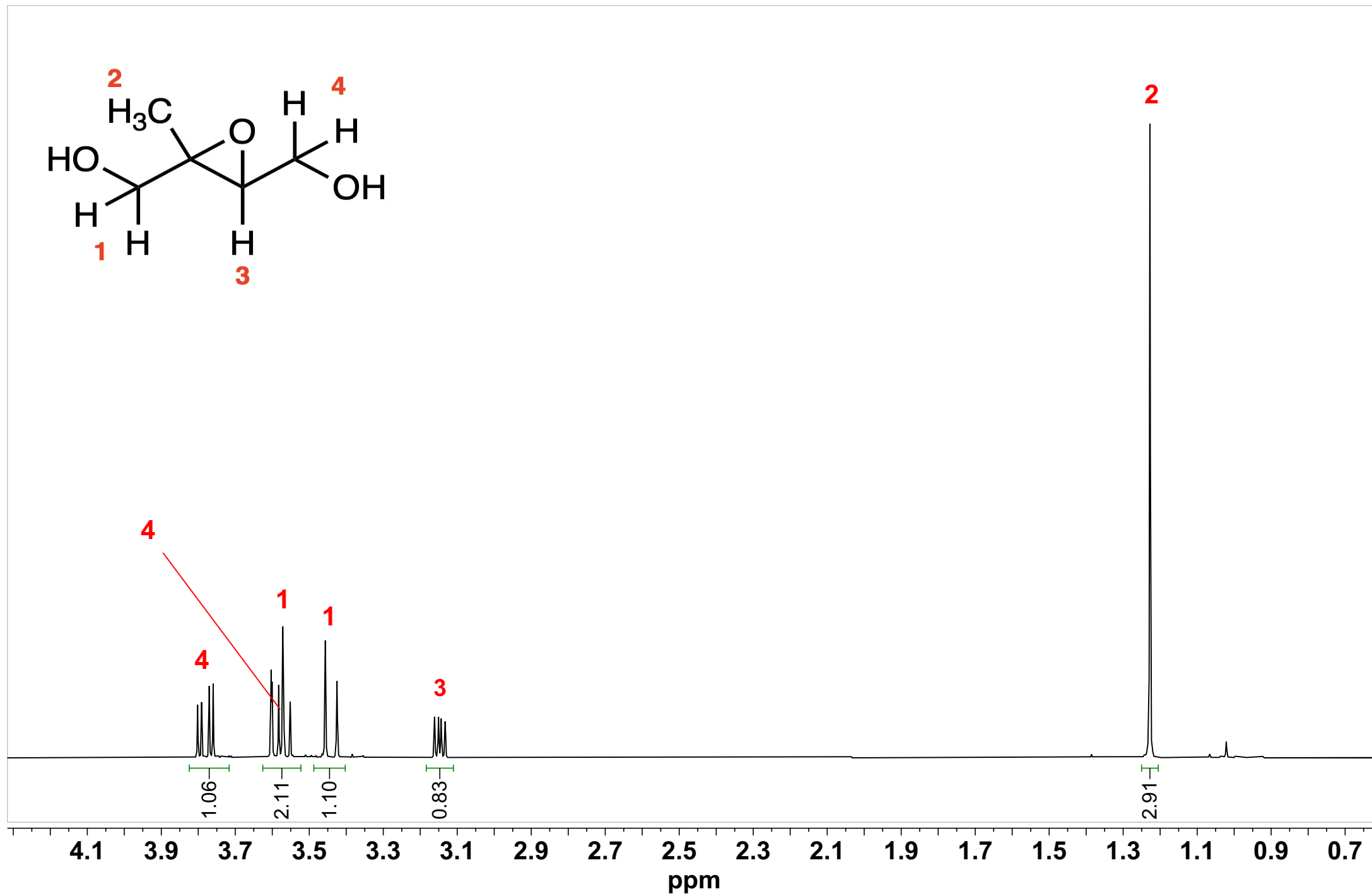


Figure S3. <sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O) *trans*-(2-methyloxirane-2,3-diol)dimethanol (*trans*- $\beta$ -IEPOX).

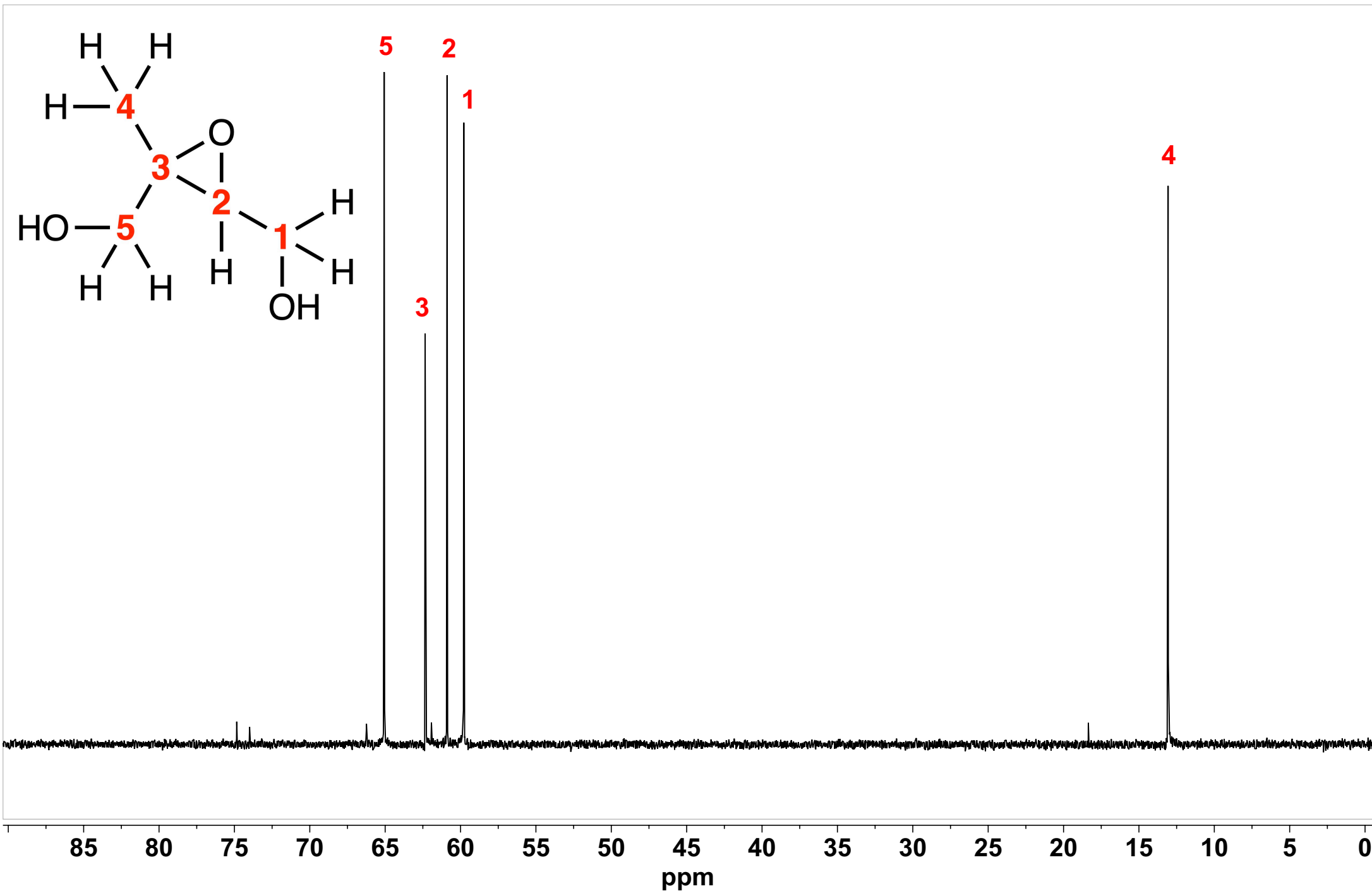


Figure S4. <sup>13</sup>C NMR (400 MHz, D<sub>2</sub>O) *trans*-(2-methyloxirane-2,3-diyl)dimethanol (*trans*-β-IEPOX).

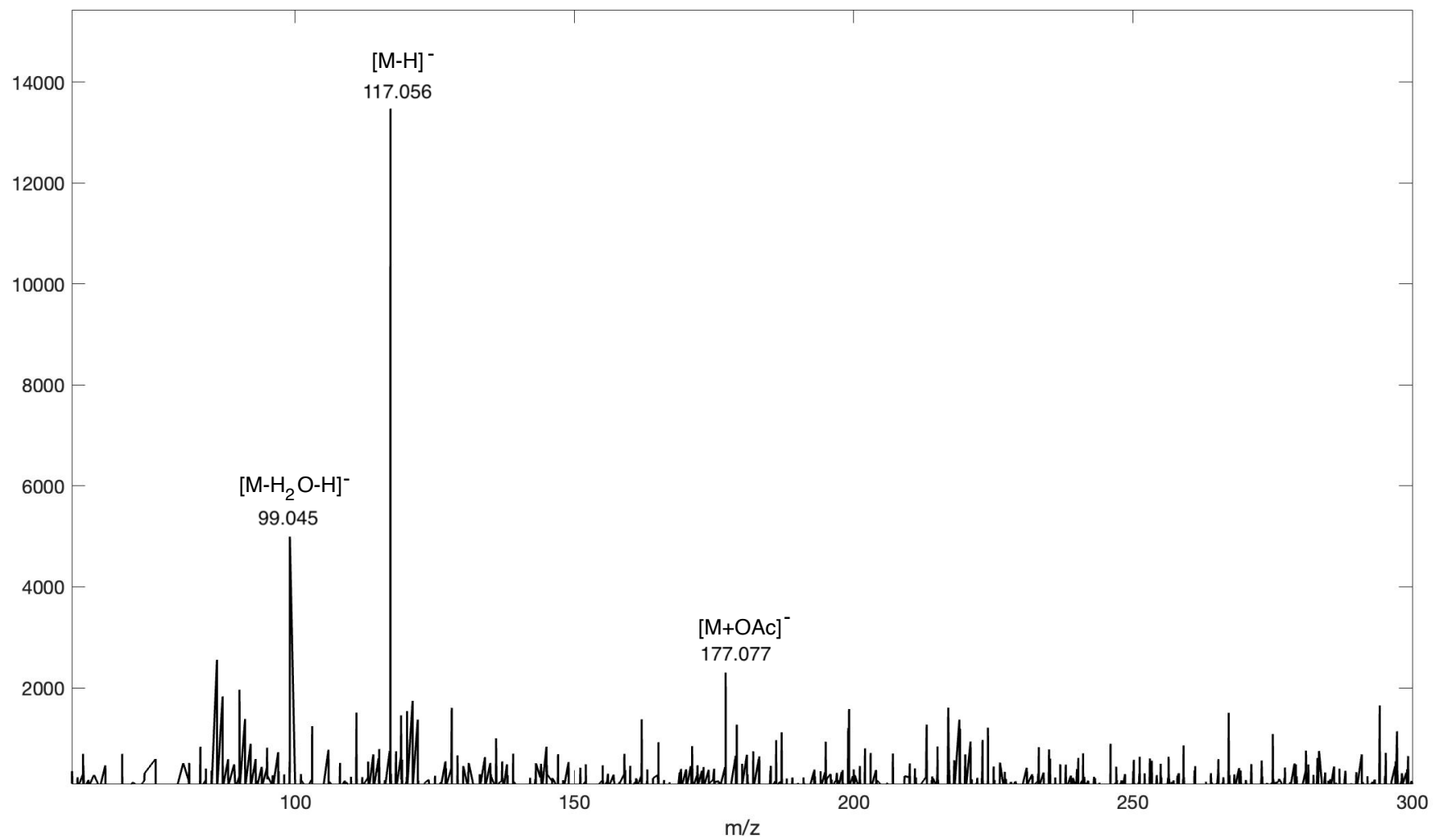


Figure S5. (-)ESI-Q-TOF-MS spectrum of *trans*- (2-methyloxirane-2,3-diyl)dimethanol (*trans*- $\beta$ -IEPOX).

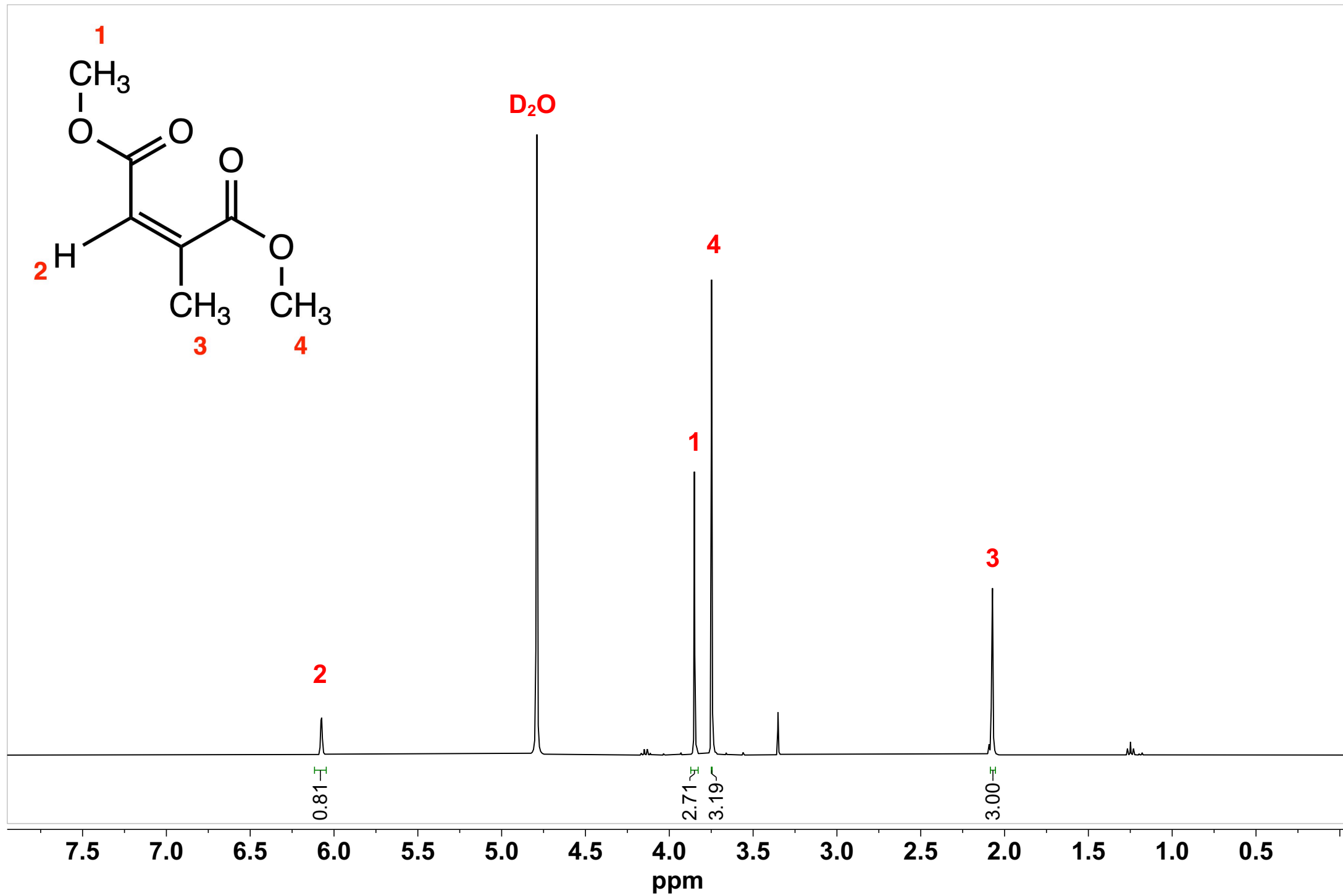


Figure S6. <sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O) citraconic acid dimethyl ester .

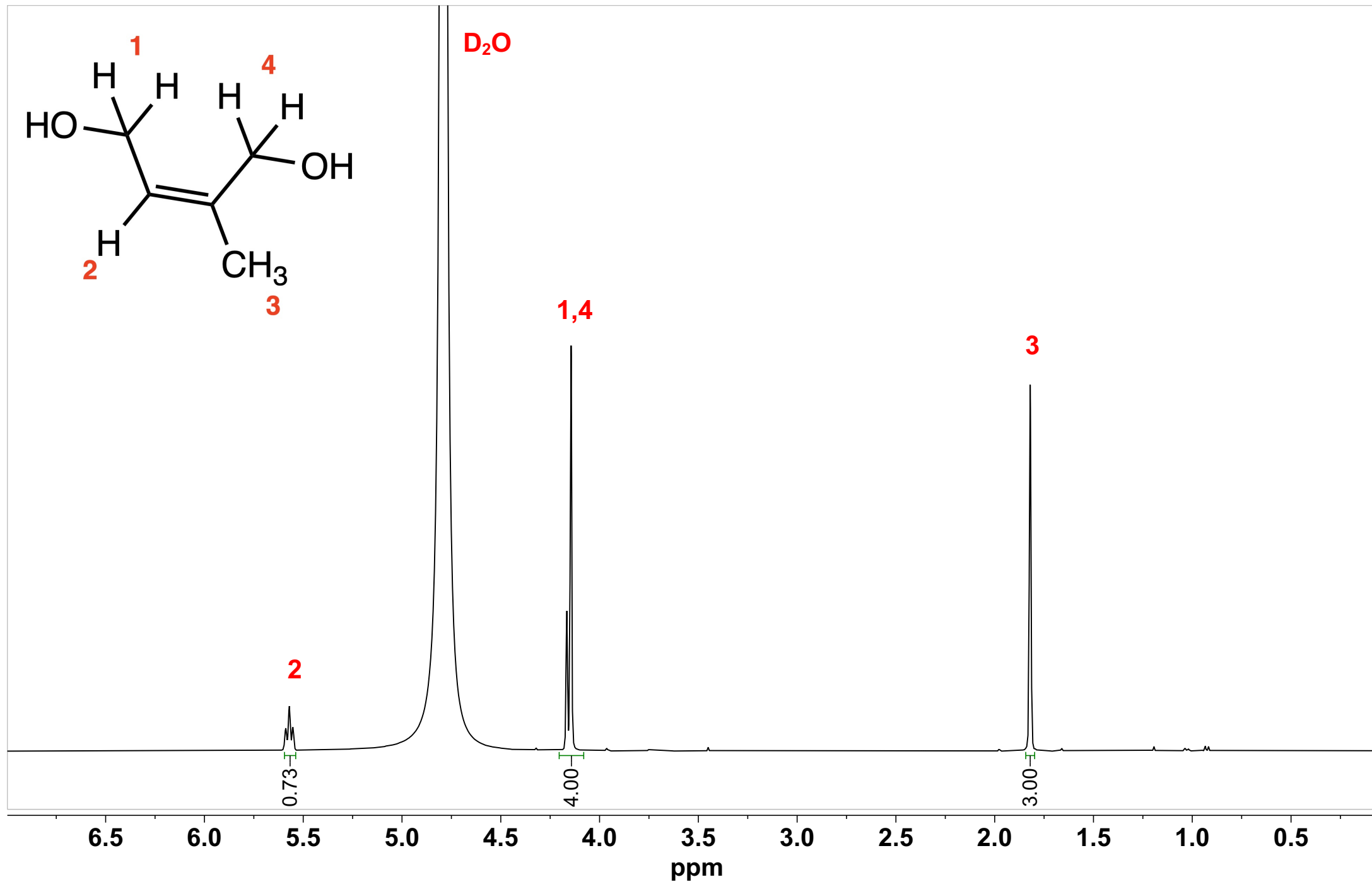


Figure S7.  $^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ ) Z-2-methylbut-2-ene-1,4-diol.



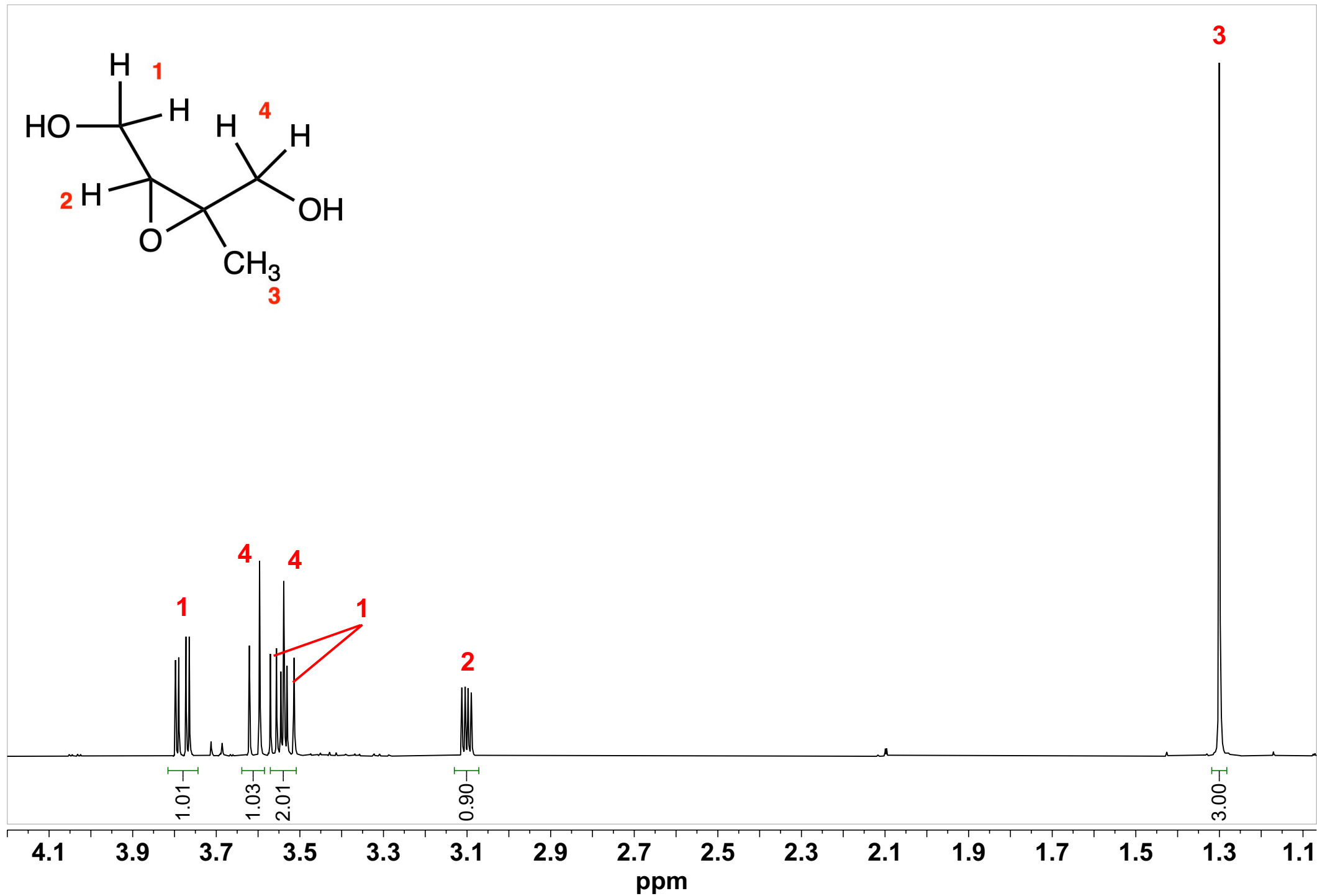


Figure S8.  $^1\text{H}$  NMR (500 MHz,  $\text{D}_2\text{O}$ ) *cis*-(2-methyloxirane-2,3-diyl)dimethanol (*cis*- $\beta$ -IEPOX).

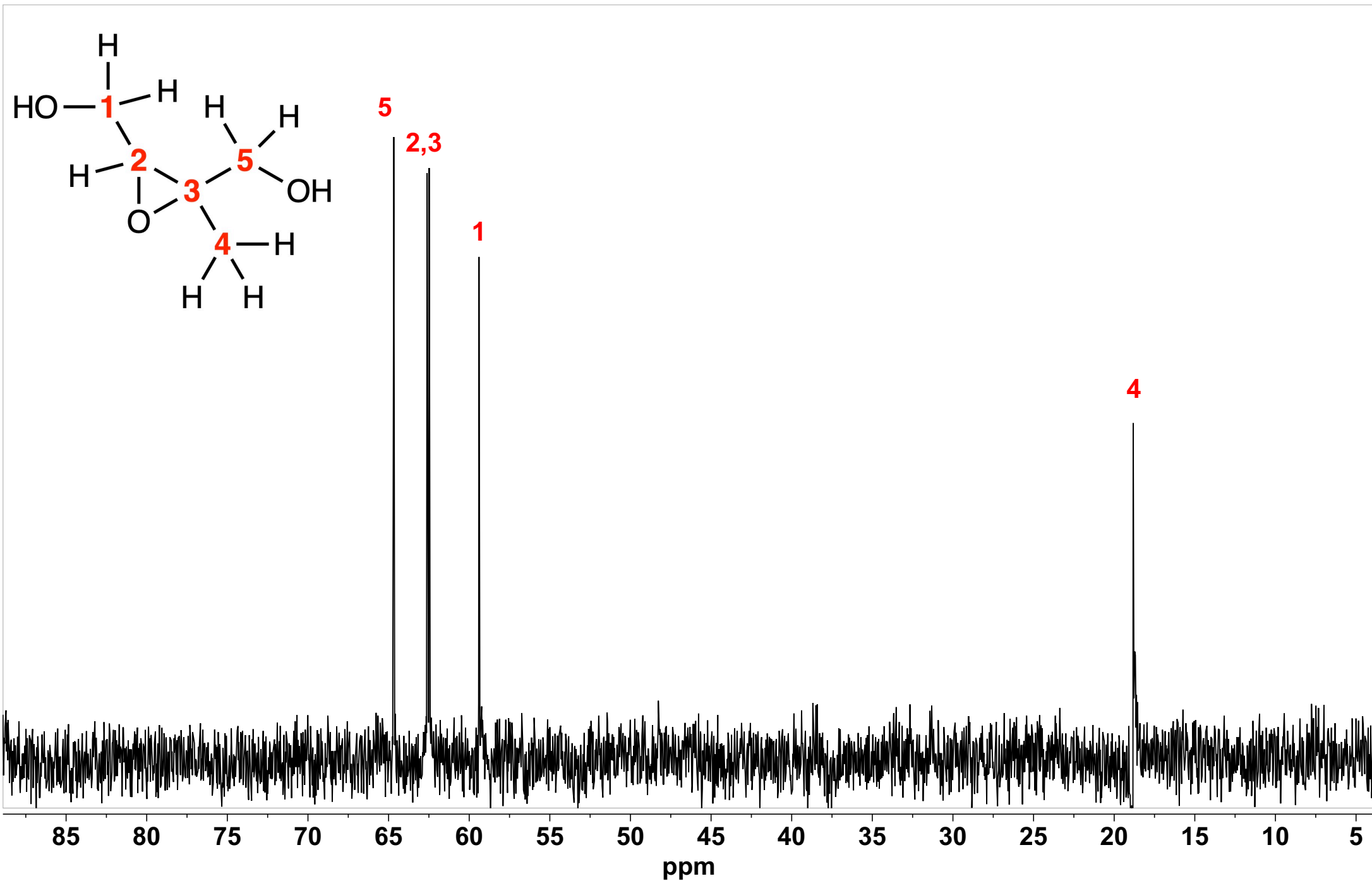


Figure S9. <sup>13</sup>C NMR (500 MHz, D<sub>2</sub>O) *cis*-(2-methyloxirane-2,3-diyl)dimethanol (*cis*-β-IEPOX).

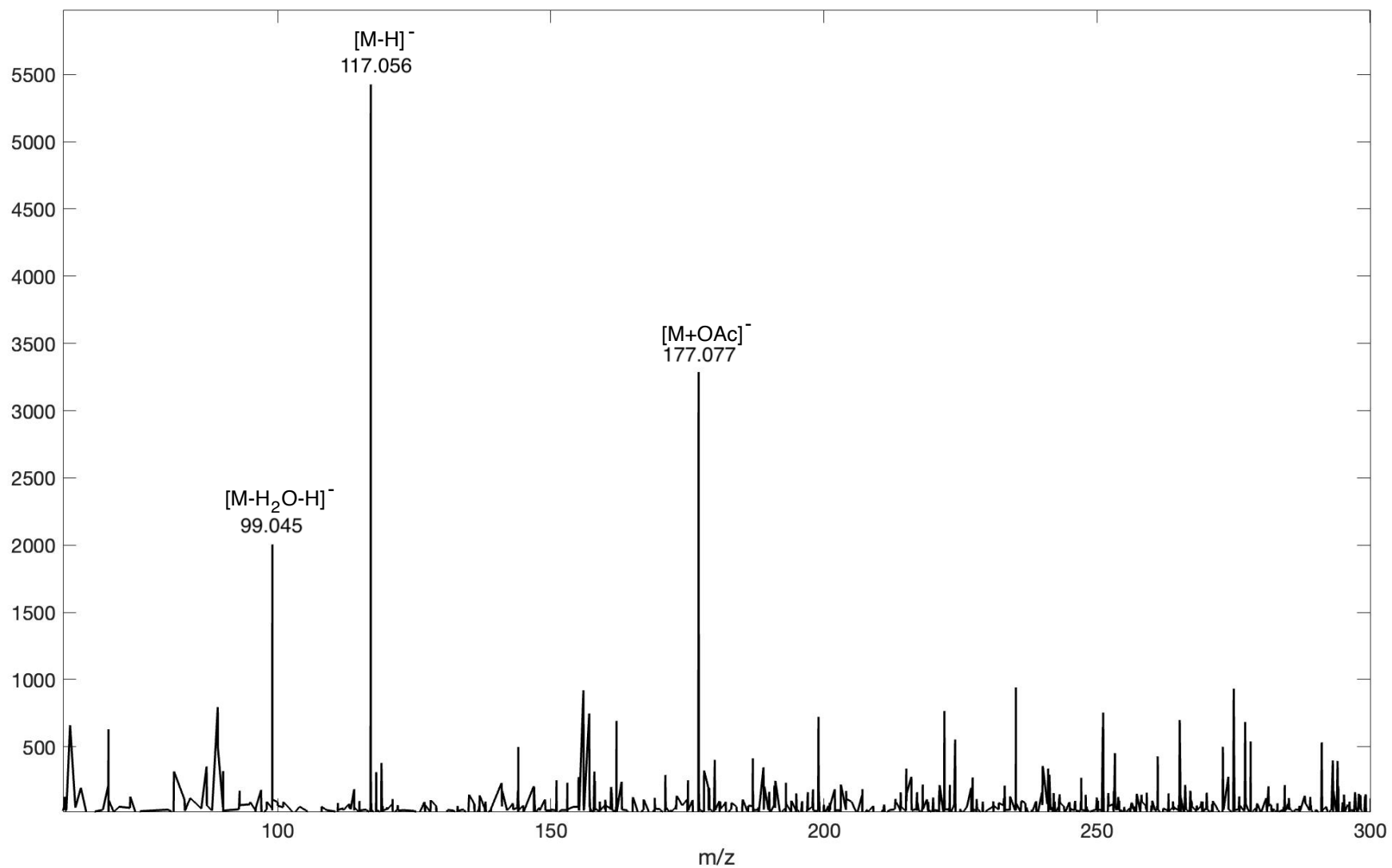


Figure S10. (-)ESI-Q-TOF-MS spectrum of *cis*-(2-methyloxirane-2,3-diyl)dimethanol (*cis*- $\beta$ -IEPOX).