Supplementary Information

Synthesis of coenzyme Q_0 through divanadium-catalyzed oxidation of 3,4,5-trimethoxytoluene with hydrogen peroxide

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Table of contents

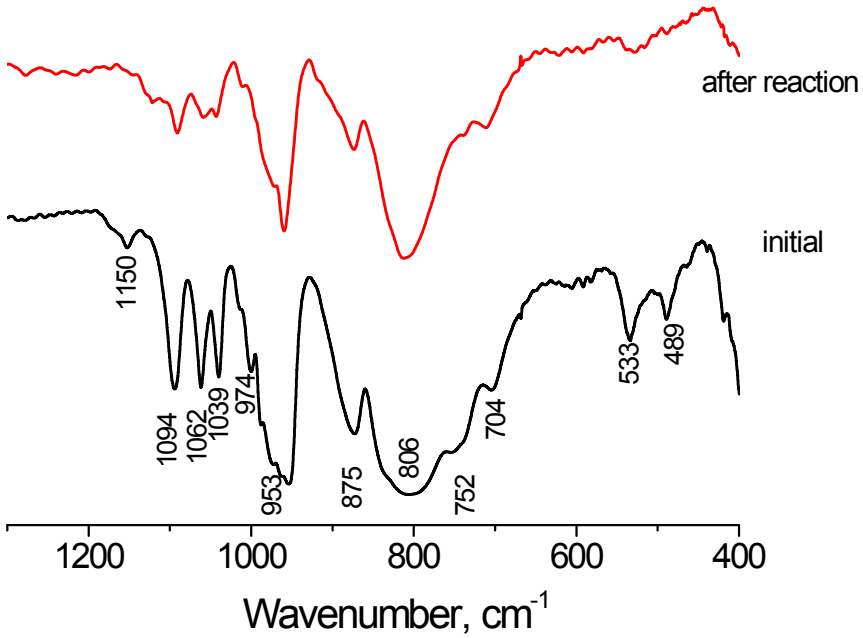

Figure S1. FTIR spectra of $(Bu_4N)_{3.5}H_{1.5}[\gamma\text{-}PW_{10}V_2O_{40}]$: initial and after catalytic reaction.

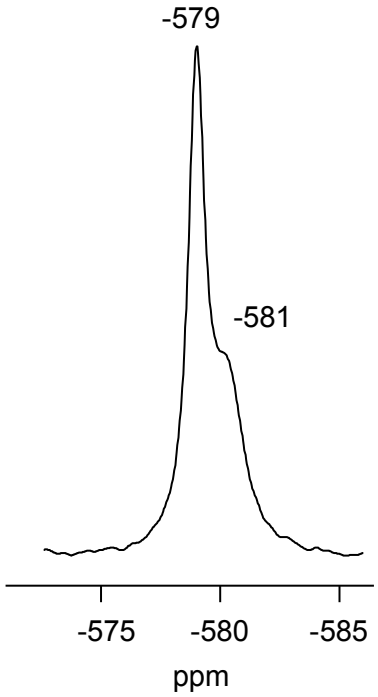

Figure S2. ^{51}V NMR (400 MHz; 0.0015 M, 25 °C) spectrum of $(Bu_4N)_{3.3}H_{1.7}[\gamma\text{-}PW_{10}V_2O_{40}]$ in dry CH_3CN.

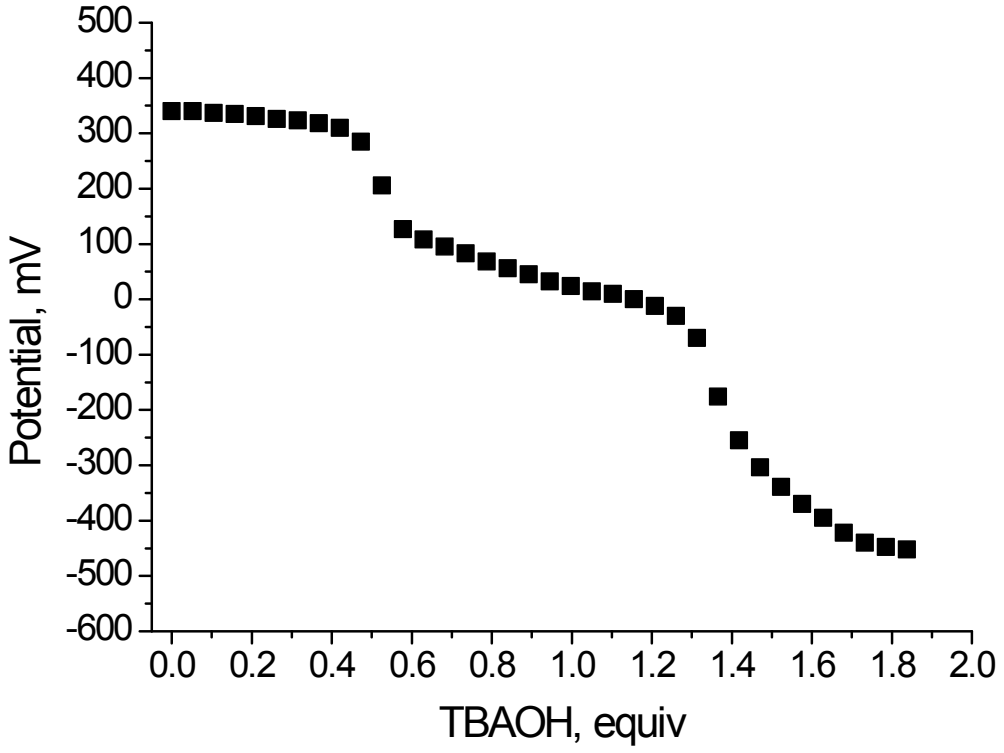

Figure S3. Potentiometric titration of $(Bu_4N)_{3.5}H_{1.5}[\gamma\text{-}PW_{10}V_2O_{40}]$ with TBAOH.

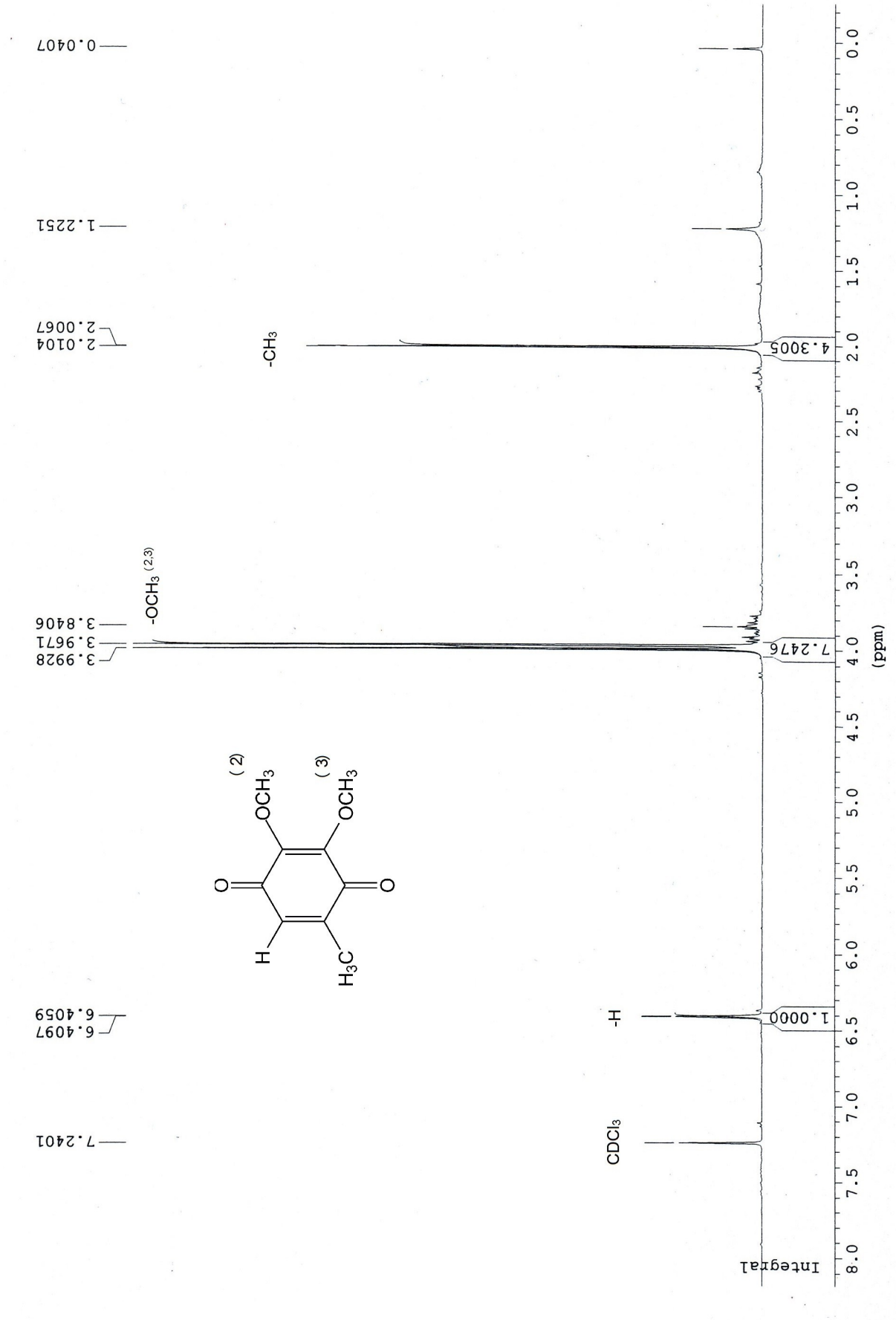

Figure S4. ^{1}H NMR (400 MHz; 25 °C) spectrum of isolated 2,3-dimethoxy-5-methyl-1,4-benzoquinone in $CDCl_3$.

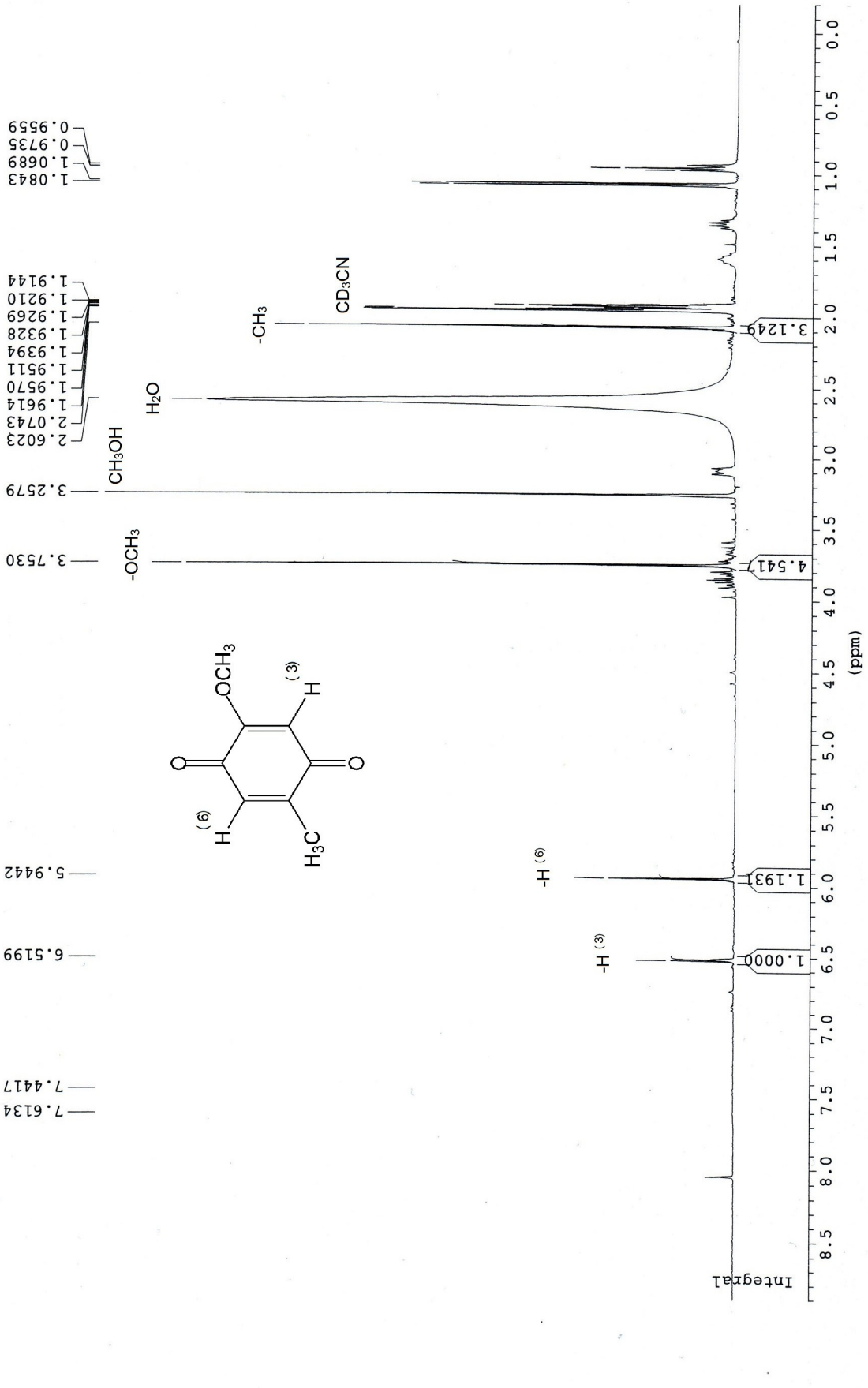

Figure S5. ^{1}H NMR (400 MHz; 25 °C) spectrum of 2-methoxy-5-methyl-1,4-benzoquinone in reaction mixture (CD_3CN) after complete conversion of substrate.

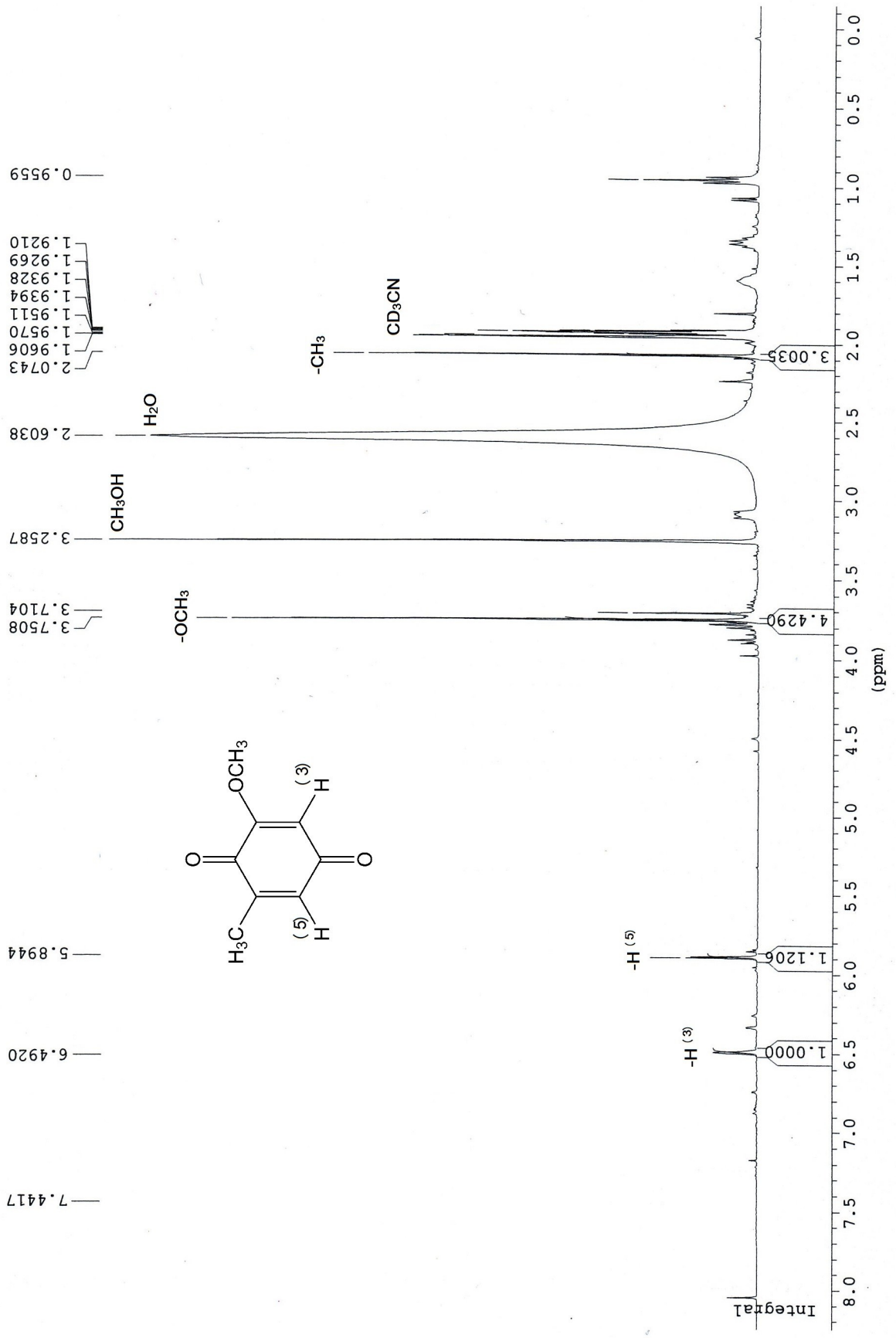

Figure S6. ^{1}H NMR (400 MHz; 25 °C) spectrum of 2-methoxy-6-methyl-1,4-benzoquinone in reaction mixture (CD_3CN) after complete conversion of substrate.

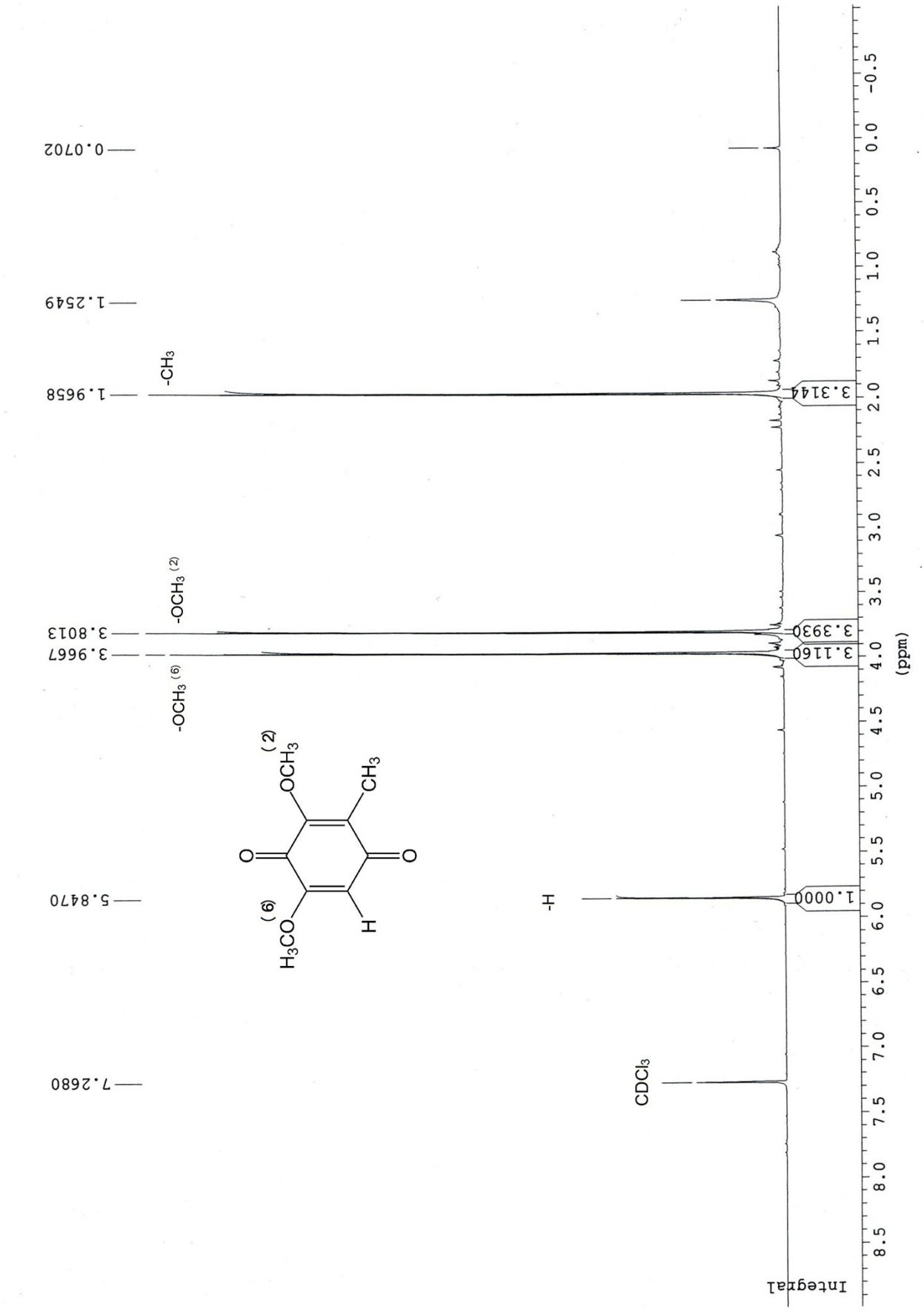

Figure S7. ^{1}H NMR (400 MHz; 25 °C) spectrum of isolated 2,6-dimethoxy-3-methyl-1,4-benzoquinone in $CDCl_3$.

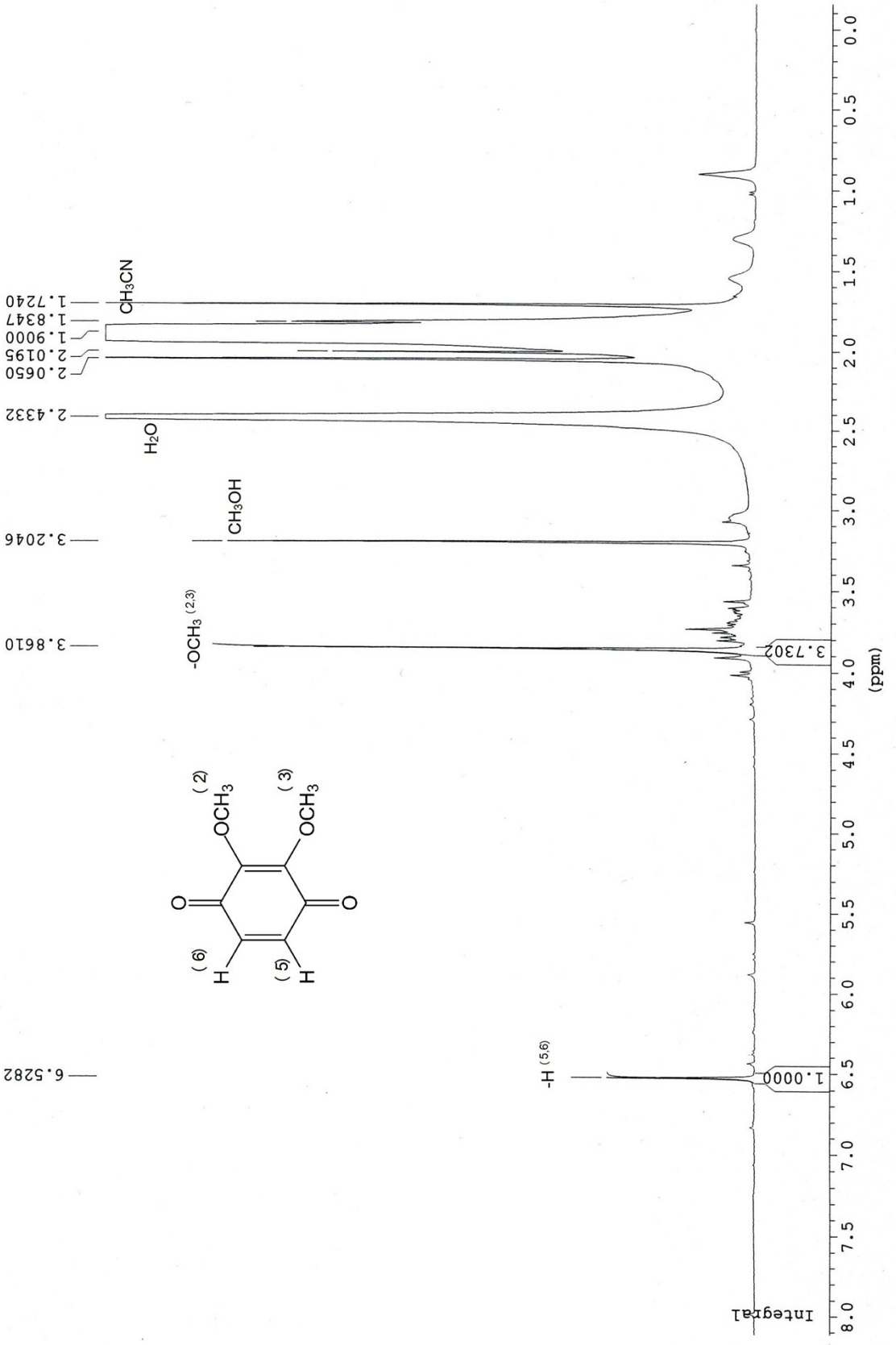

Figure S8. ^{1}H NMR (400 MHz; 25 °C) spectrum of 2,3-dimethoxy-1,4-benzoquinone in reaction mixture (CH_3CN) after complete conversion of substrate.

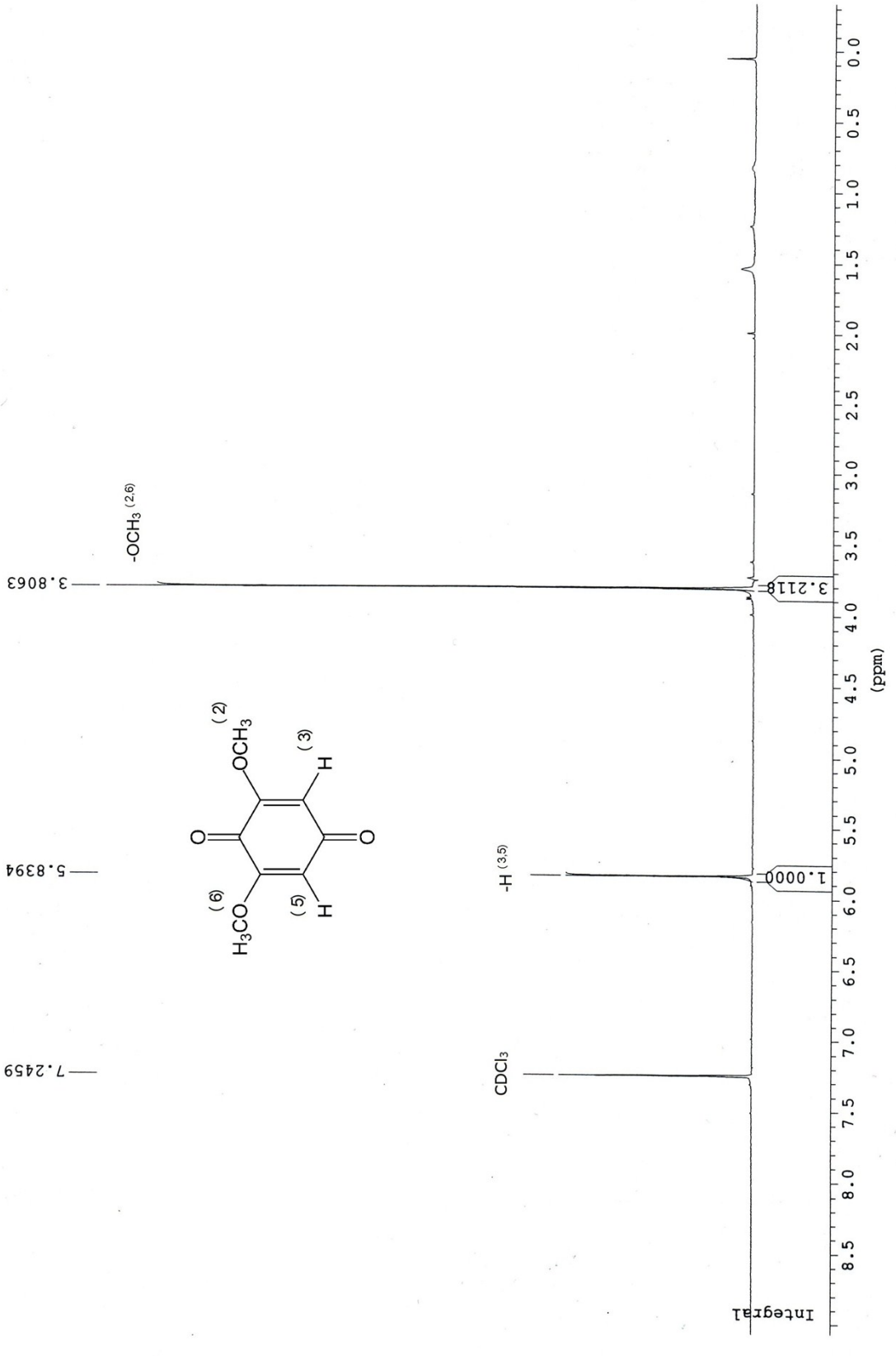

Figure S9. ^{1}H NMR (400 MHz; 25 °C) spectrum of isolated 2,6-dimethoxy-1,4-benzoquinone in $CDCl_3$