

Thermal isomerization of spiropyran to merocyanine in aqueous media and its application to colorimetric temperature indication

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Electronic Supplementary Information (ESI†)

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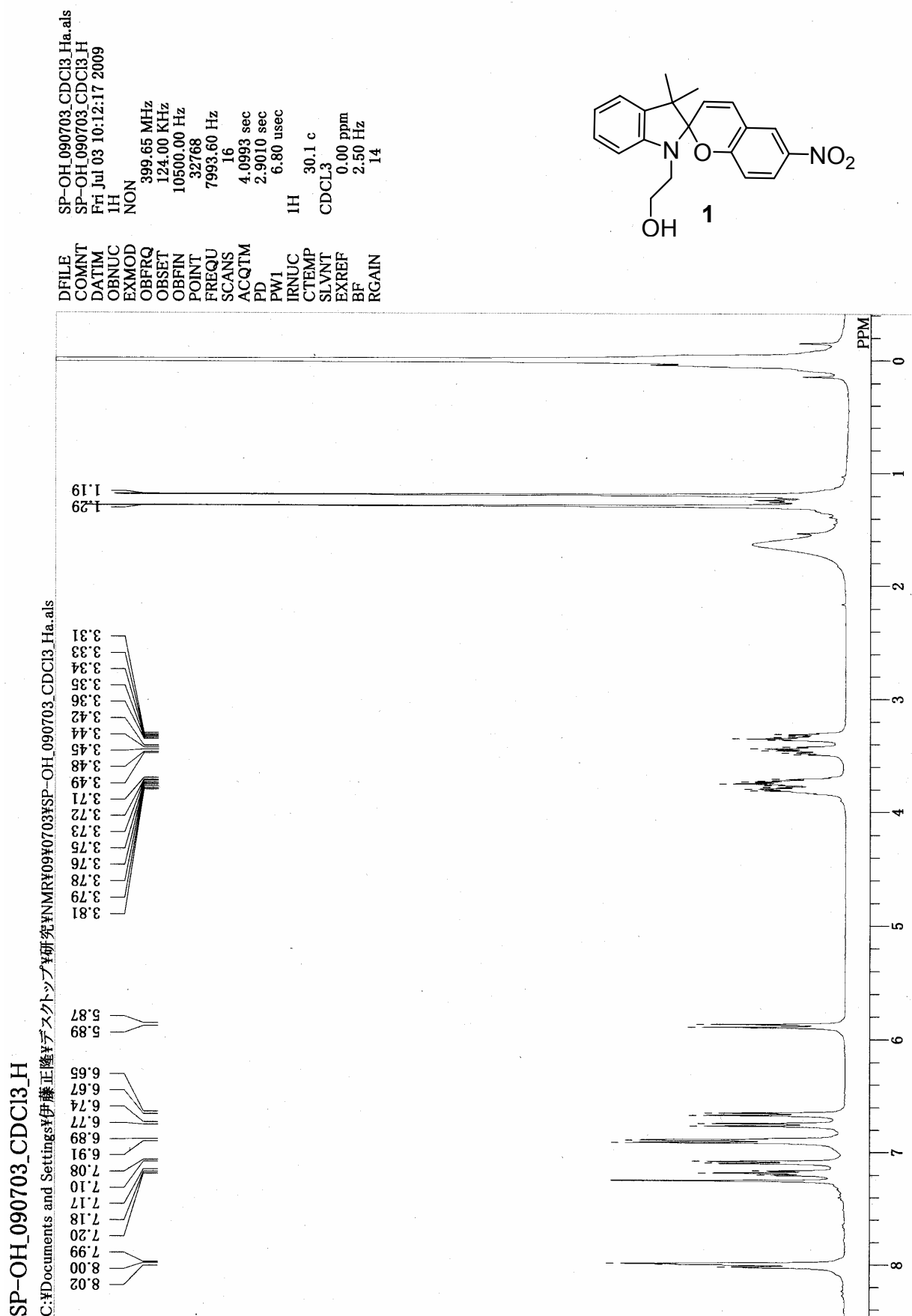


Fig. S1. ¹H NMR chart of **1** (CDCl₃, 400 MHz).

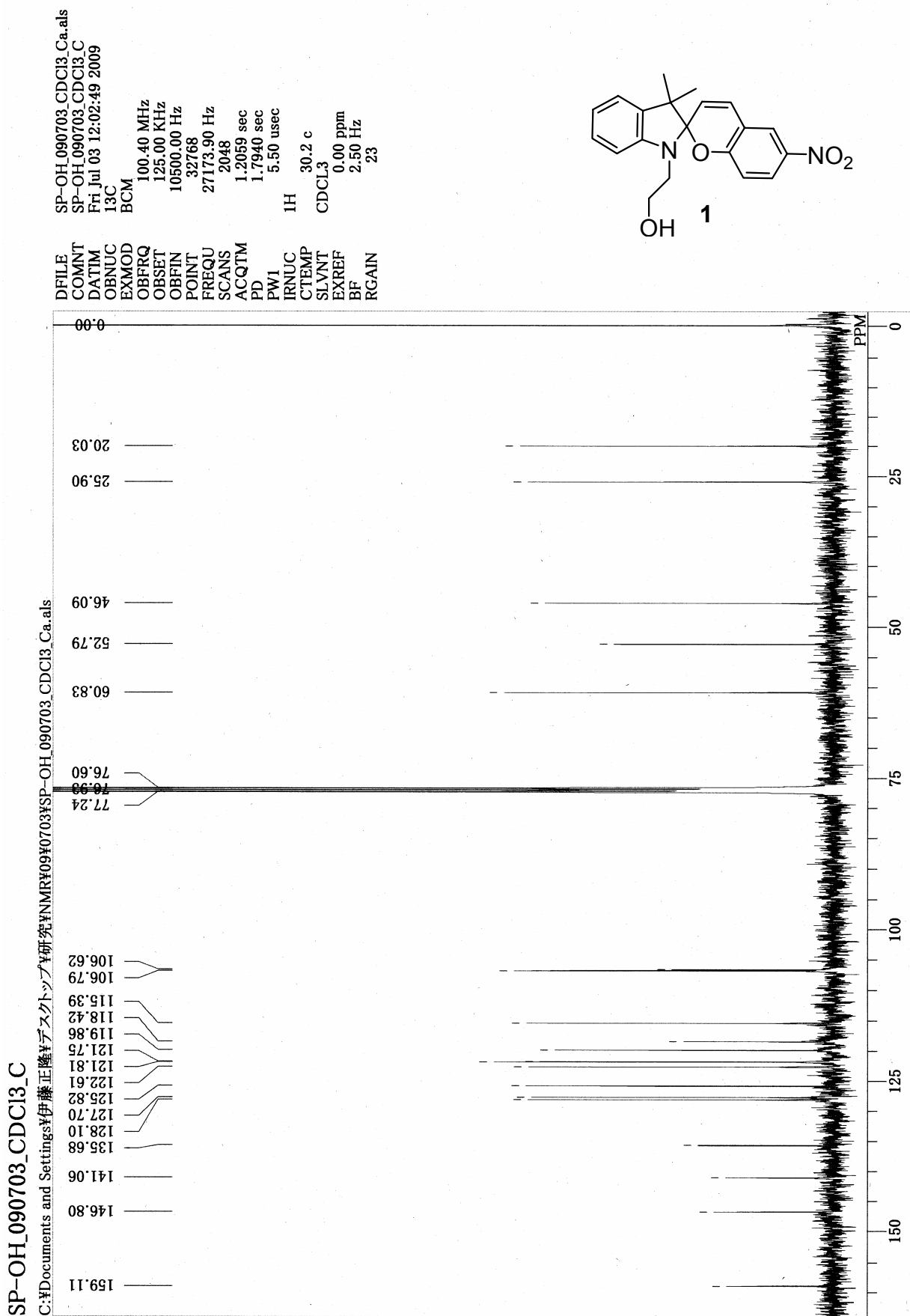


Fig. S2. ^{13}C NMR chart of **1** (CDCl_3 , 100 MHz).

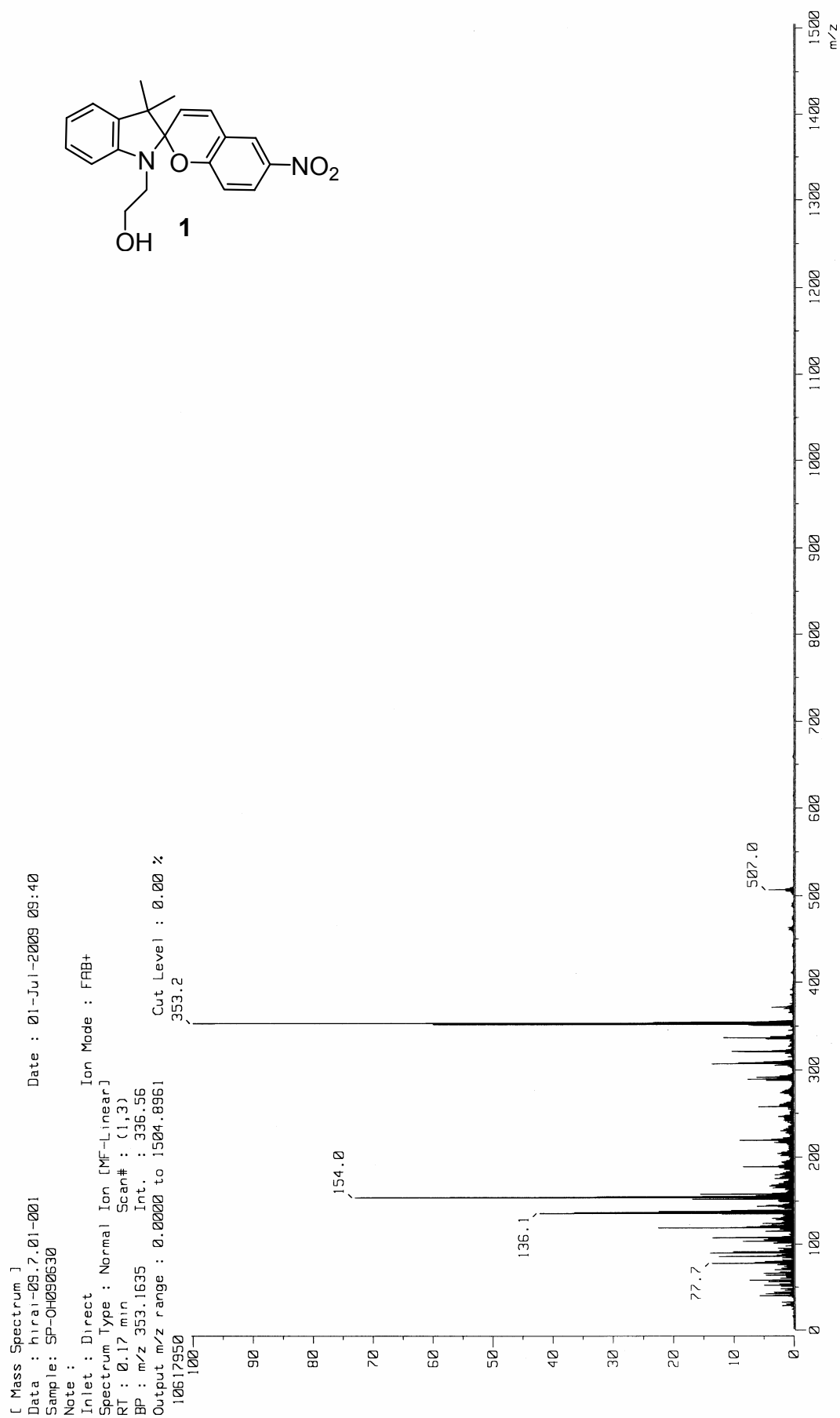


Fig. S3. FAB-MS chart of 1.

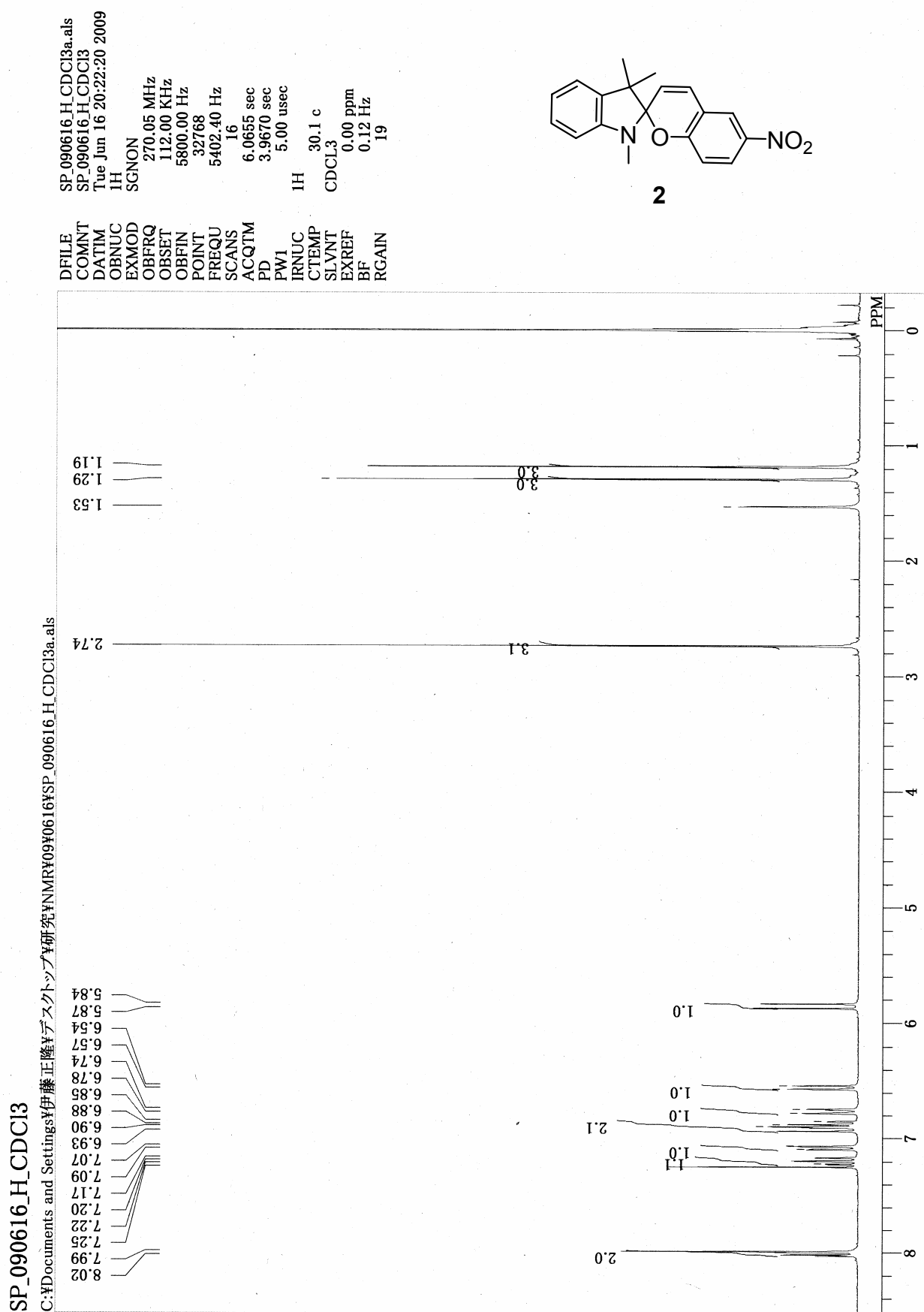


Fig. S4. ¹H NMR chart of **2** (CDCl₃, 270 MHz).

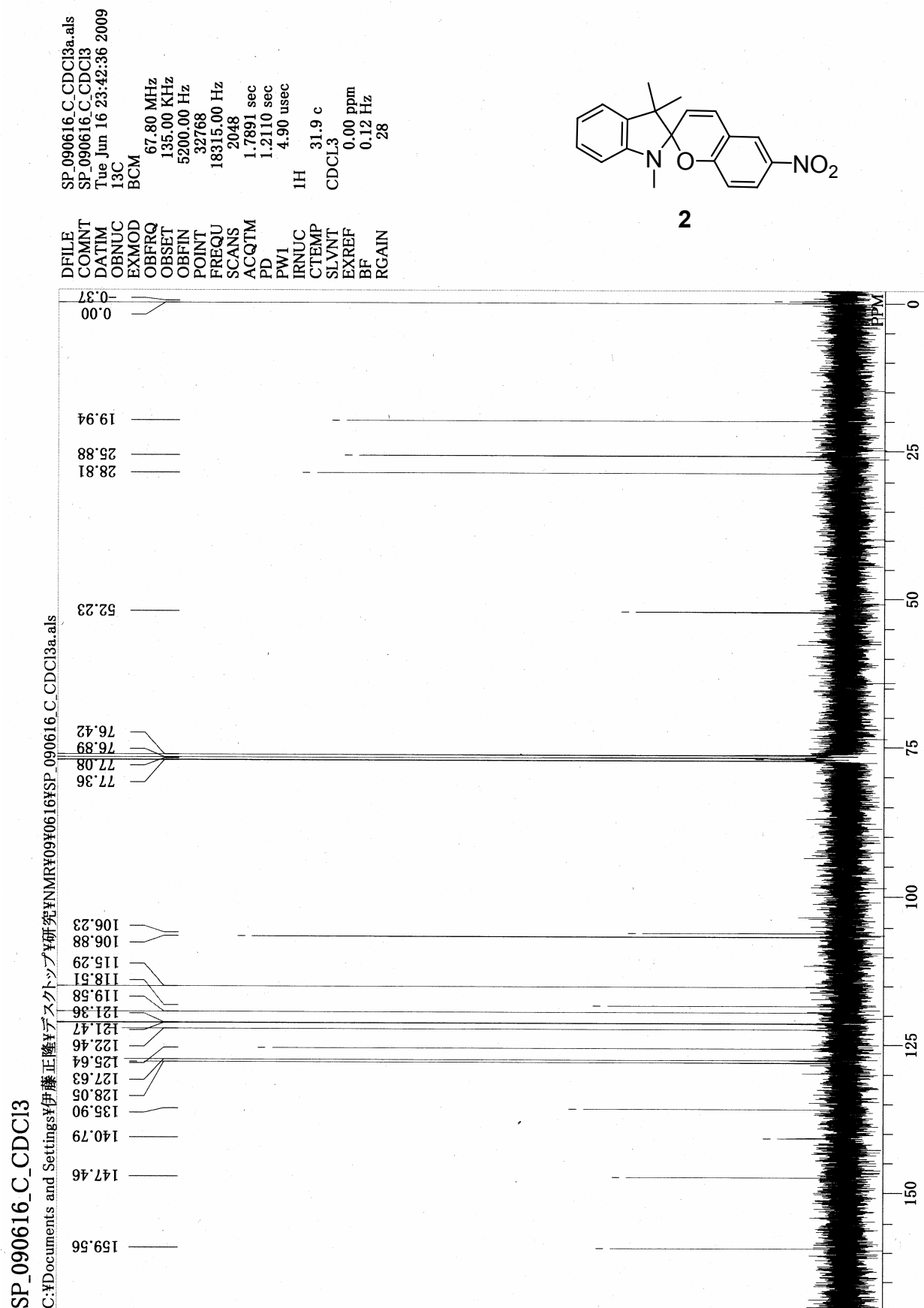


Fig. S5. ^{13}C NMR chart of **2** (CDCl_3 , 68 MHz).

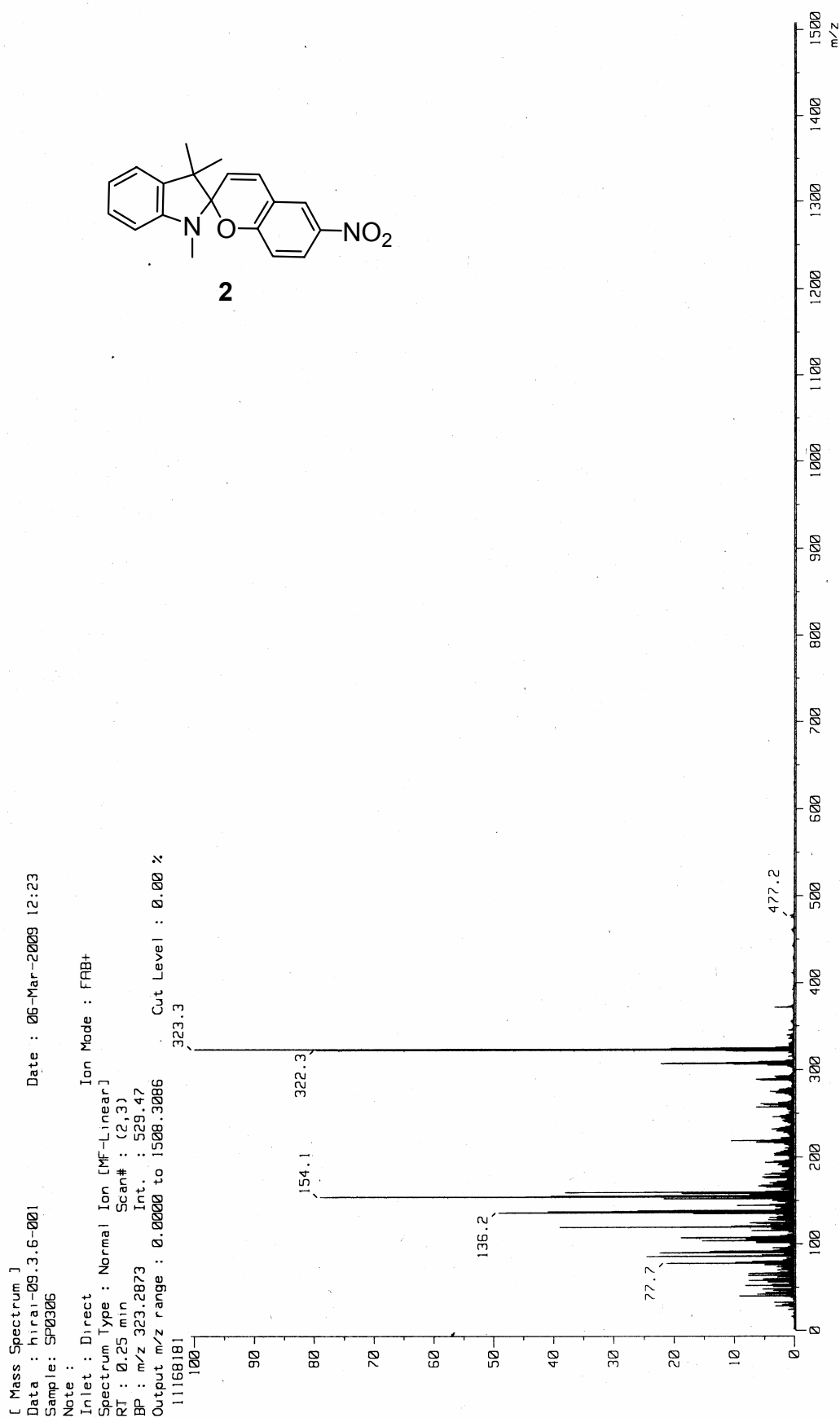


Fig. S6. FAB-MS chart of 2.

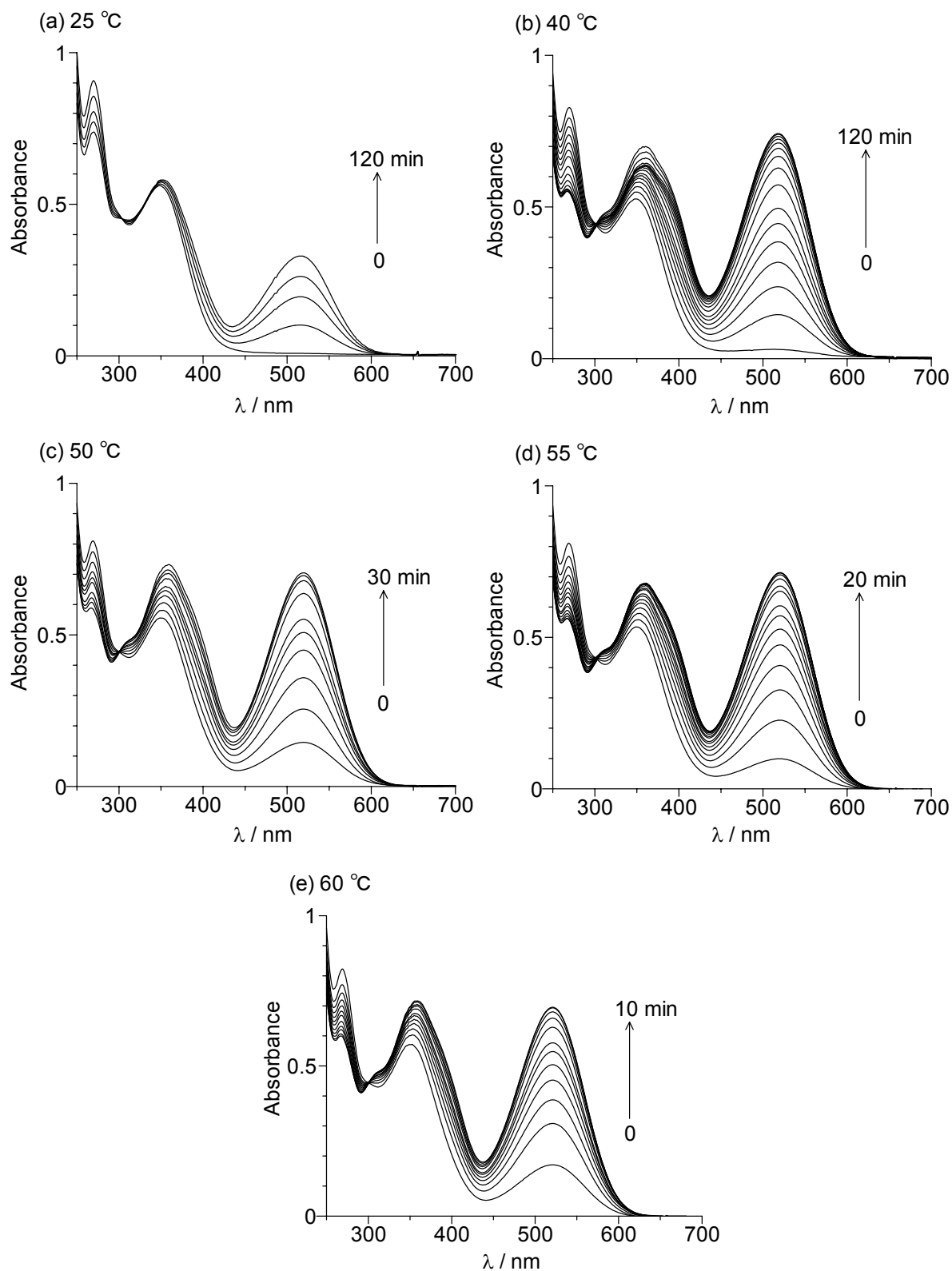


Fig. S7. Time-dependent change in absorption spectra of **1** (50 μ M) measured in a water/MeOH (1/1 v/v) mixture at different temperature in the dark.

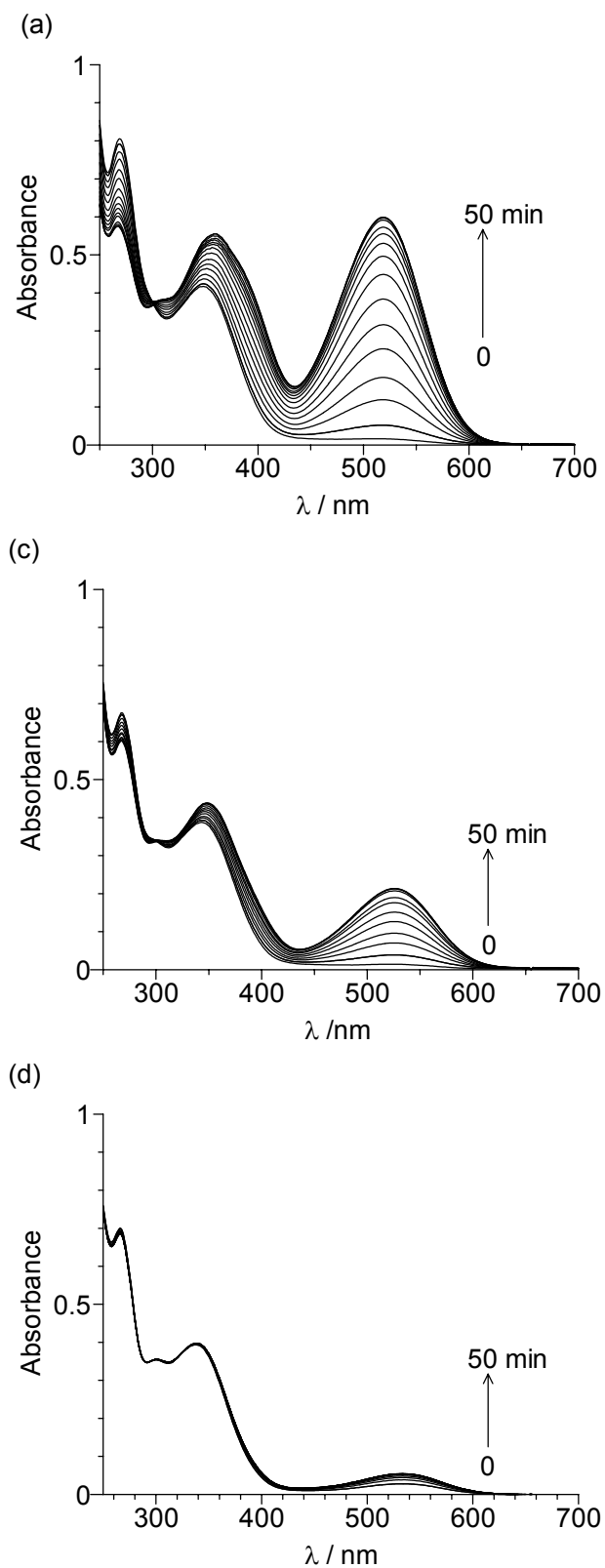


Fig. S8. Time-dependent change in absorption spectra of **1** (50 μM) measured in (a) $\text{D}_2\text{O}/\text{MeOH}$ (1/1 v/v), (c) water/MeOH (1/4 v/v), and (d) MeOH in the dark at 45 $^{\circ}\text{C}$.

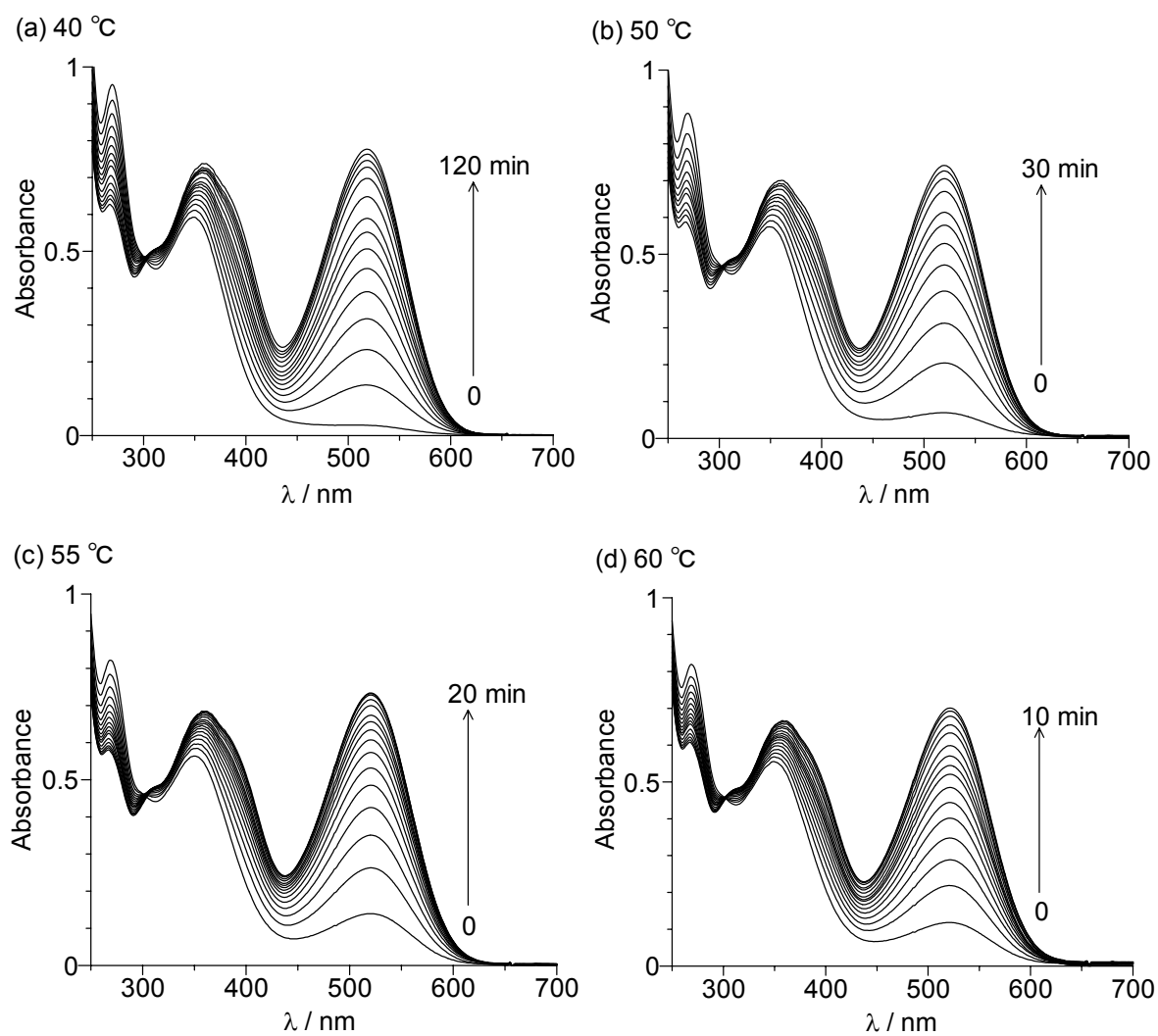


Fig. S9. Time-dependent change in absorption spectra of **1** (50 μM) measured in a $\text{D}_2\text{O}/\text{MeOH}$ (1/1 v/v) mixture at different temperature in the dark.

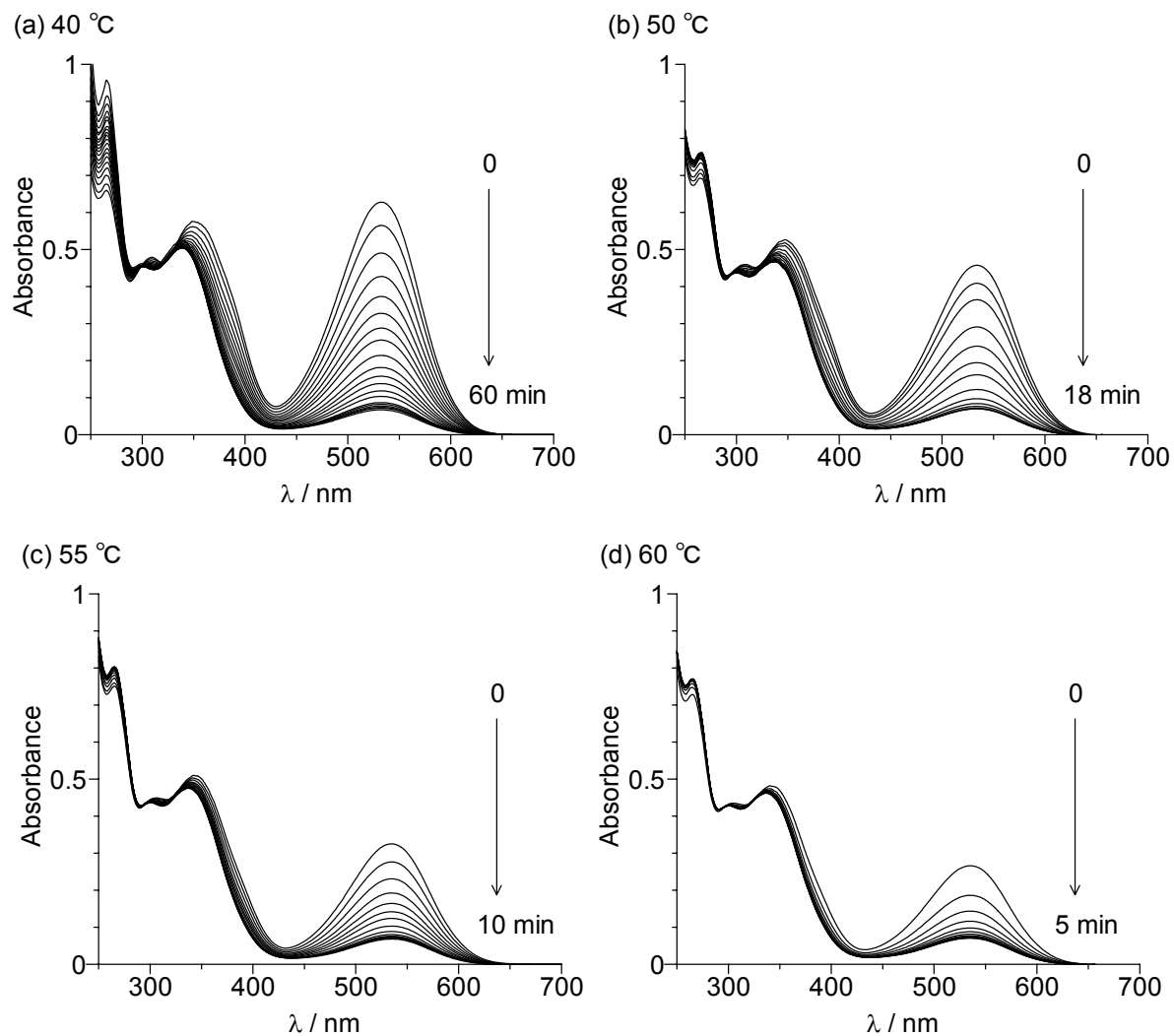


Fig. S10. Time-dependent change in absorption spectra of **1** (50 μM) measured in MeOH at different temperature in the dark. The measurement was carried out after UV irradiation (334 nm) for 15 min at the respective temperature.

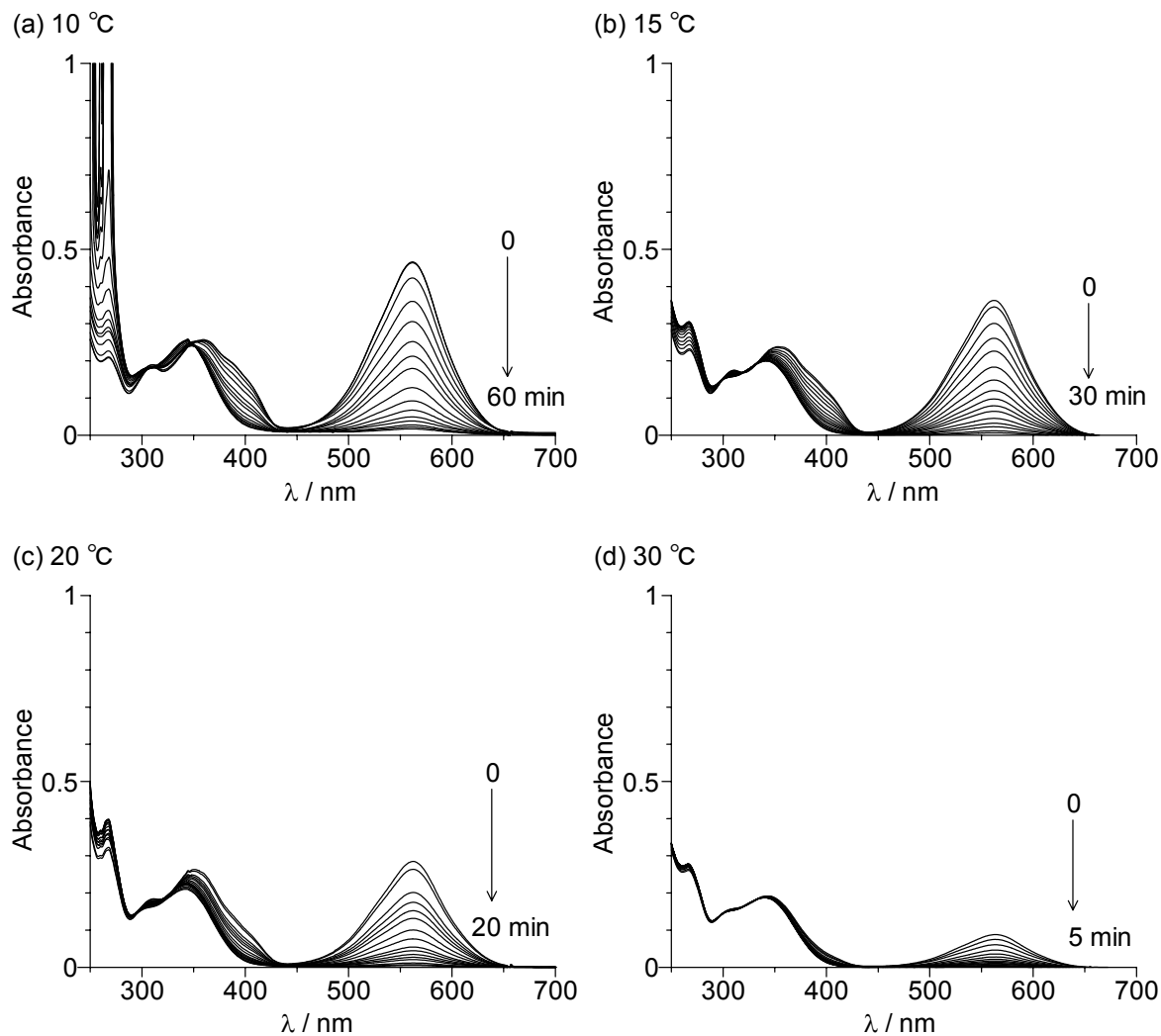


Fig. S11. Time-dependent change in absorption spectra of **1** (50 μM) measured in MeCN at different temperature in the dark. The measurement was carried out after UV irradiation (334 nm) for 15 min at the respective temperature.

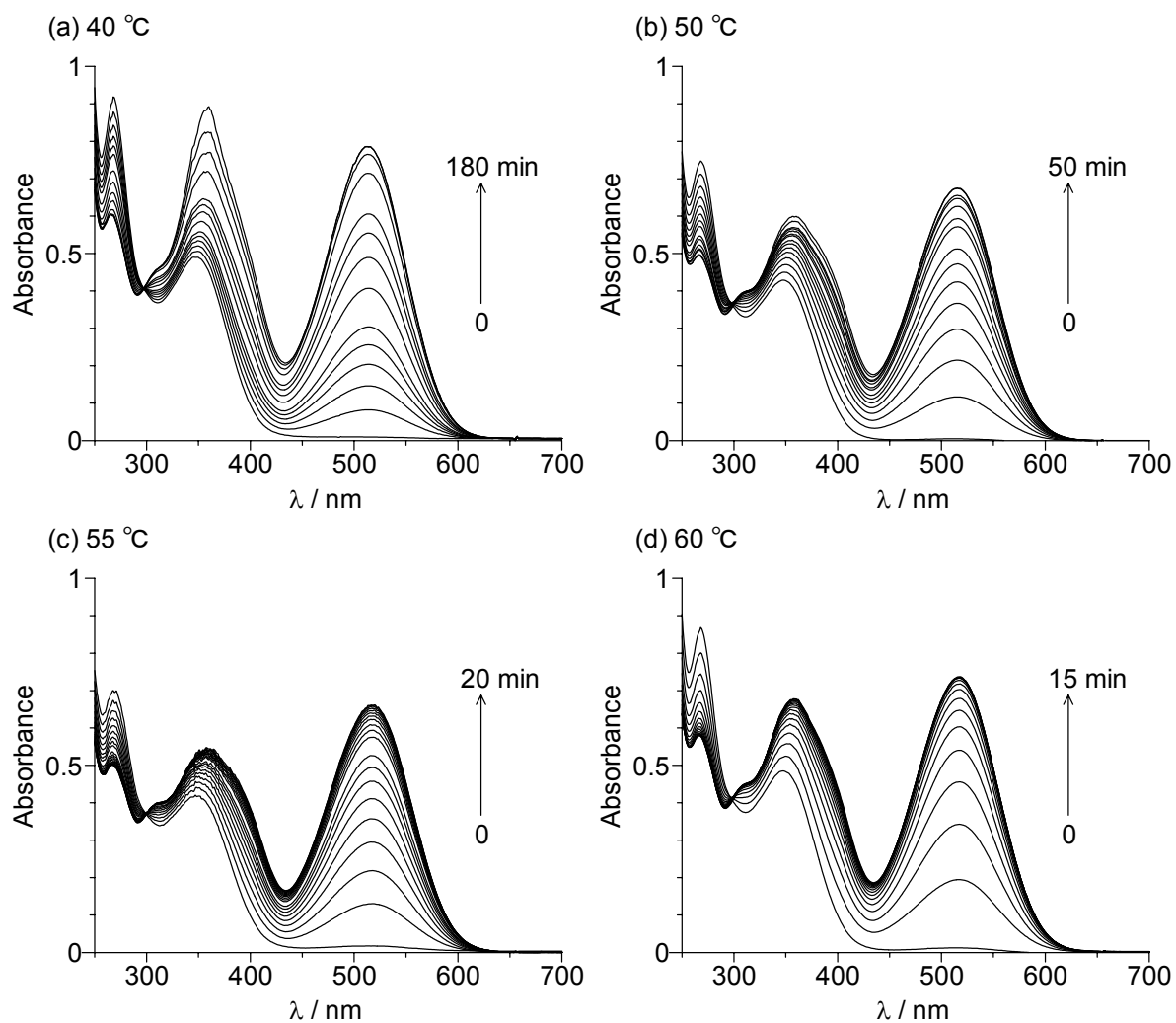


Fig. S12. Time-dependent change in absorption spectra of **2** (50 μM) measured in a $\text{D}_2\text{O}/\text{MeOH}$ (1/1 v/v) mixture at different temperature in the dark.

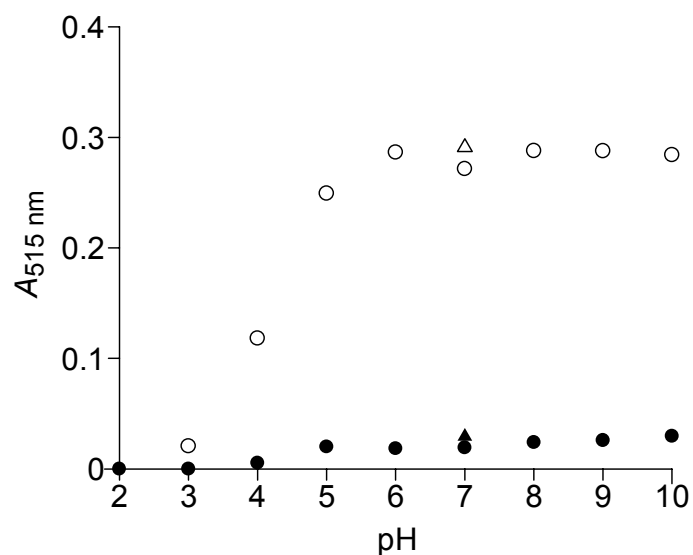


Fig. S13. Effects of pH and NaCl salt on the MC absorbance of **1** (50 μ M) measured in a water/MeOH (1/1 v/v) mixture under visible light irradiation with a light intensity, 39.7 mW m⁻² at different temperature. (closed circle) at 40 °C, (open circle) at 60 °C, (closed triangle) at 40 °C with 100 mM NaCl, and (open triangle) at 60 °C with 100 mM NaCl. The measurements were carried out after 5 min stirring at the designated temperature.