

Supplementary Information (ESI) for:

**Vitamin B₁₂ model complex catalyzed methyl transfer reaction
to alkylthiol under electrochemical conditions with sacrificial
electrode**

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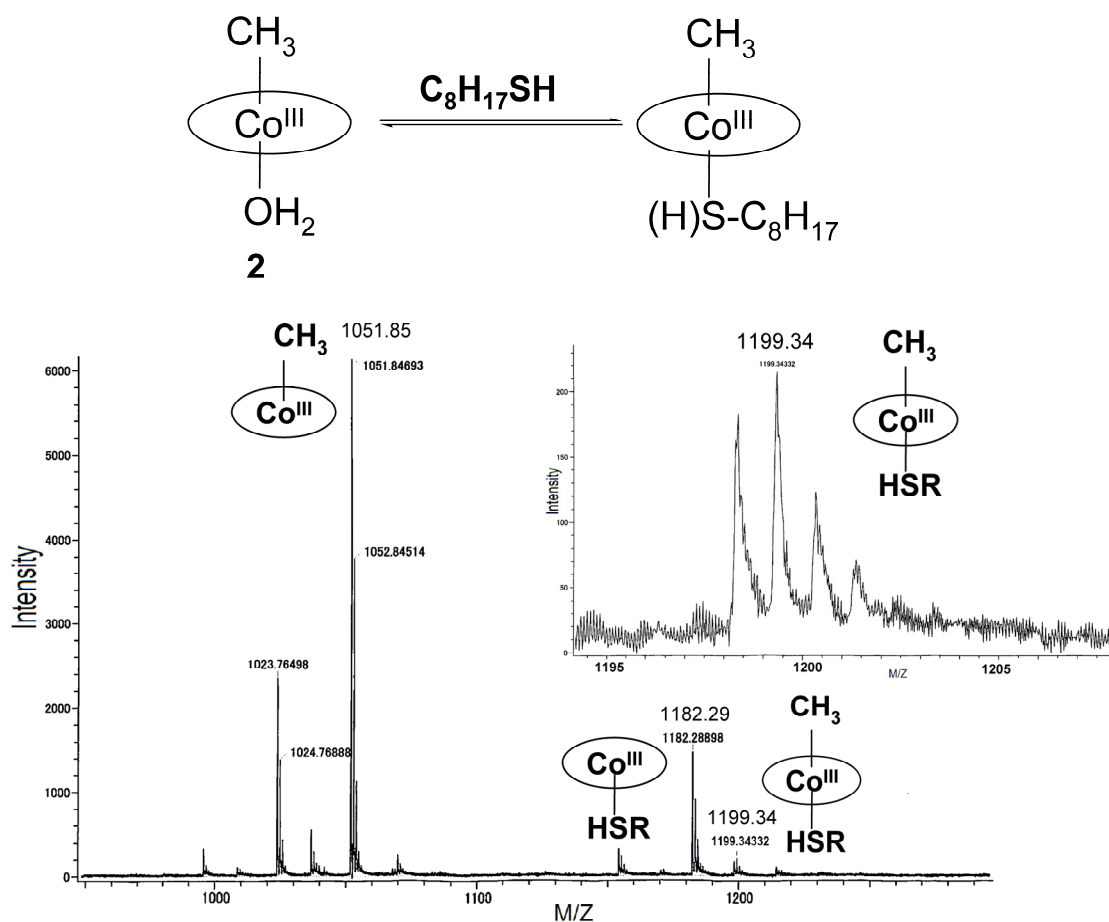


Fig. S1 Interaction of $[(\text{CH}_3)(\text{H}_2\text{O})\text{Co}(\text{III})7\text{C}_1\text{ester}]\text{ClO}_4$ **2** and 1-octanethiol observed from ESI MS spectra in DMF with a 1:100 mol-equiv. for the complex **2** and 1-octanethiol.

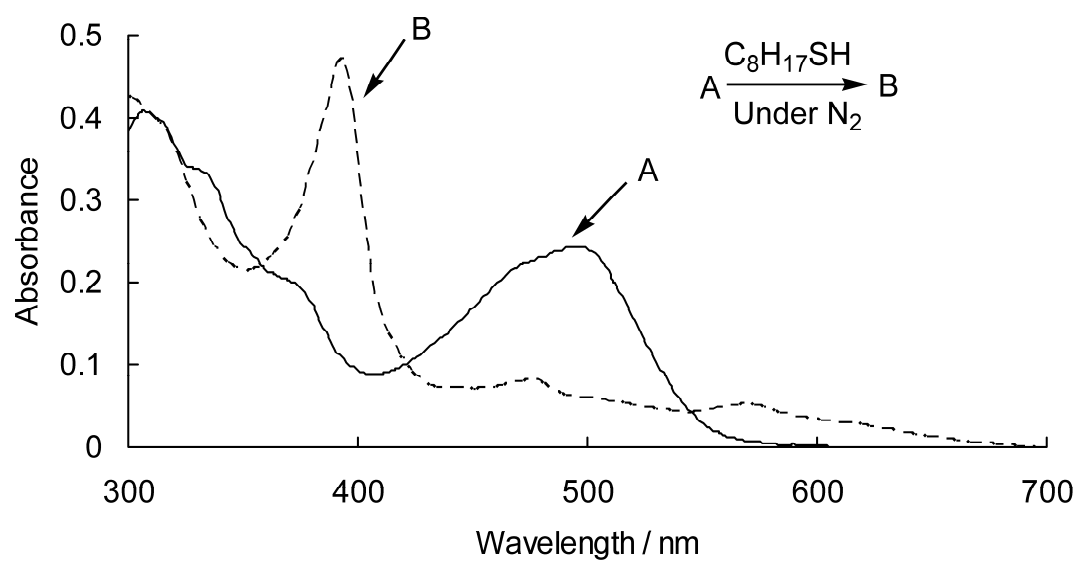


Fig. S2 Interaction of $[(\text{CH}_3)(\text{H}_2\text{O})\text{Cob}(\text{III})7\text{C}_1\text{ester}]\text{ClO}_4$ **2** and 1-octanethiol observed from electronic spectra in DMF under anerobic conditions. (A): complex **2** (15.0×10^{-5} M) in DMF; (B): after 1-octanethiol (8.7×10^{-3} M) was immediately added.

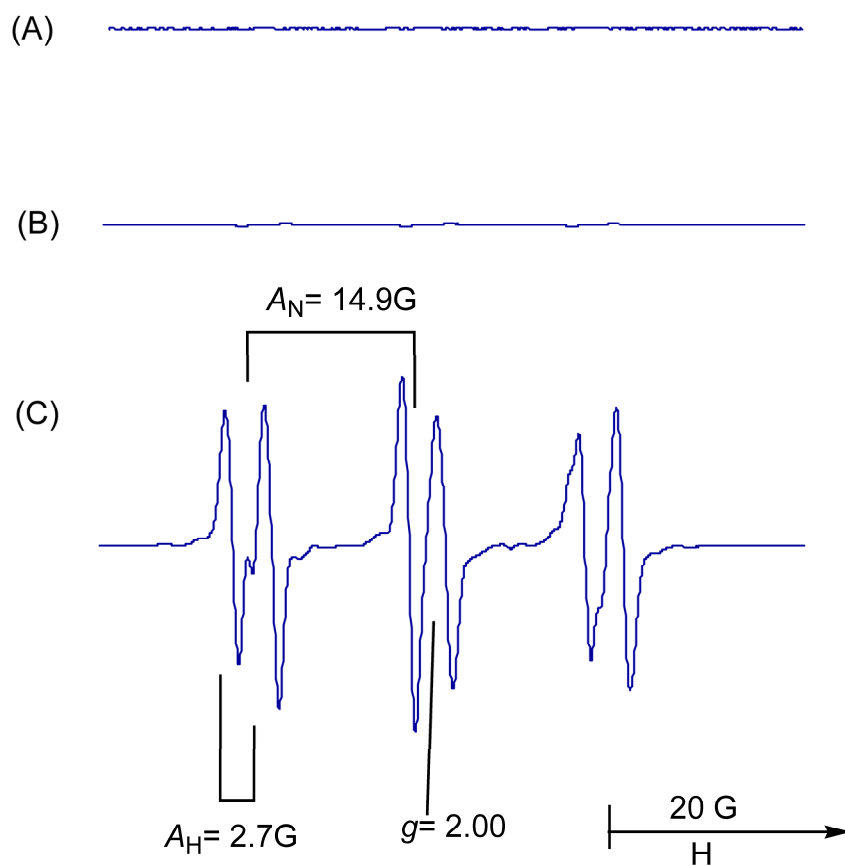


Fig. S3 ESR spectrum of (A): the DMF solution of $[(\text{CH}_3)(\text{H}_2\text{O})\text{Cob}(\text{III})7\text{C}_1\text{ester}]\text{ClO}_4 \mathbf{2}$ (2.4×10^{-3} M) containing 2.3×10^{-1} M of PBN in the dark; (B): after 1-octanethiol (1.1×10^{-1} M) was added; (C): the solution of (A) was irradiated with visible light for 1 min. 1 G=0.1 mT