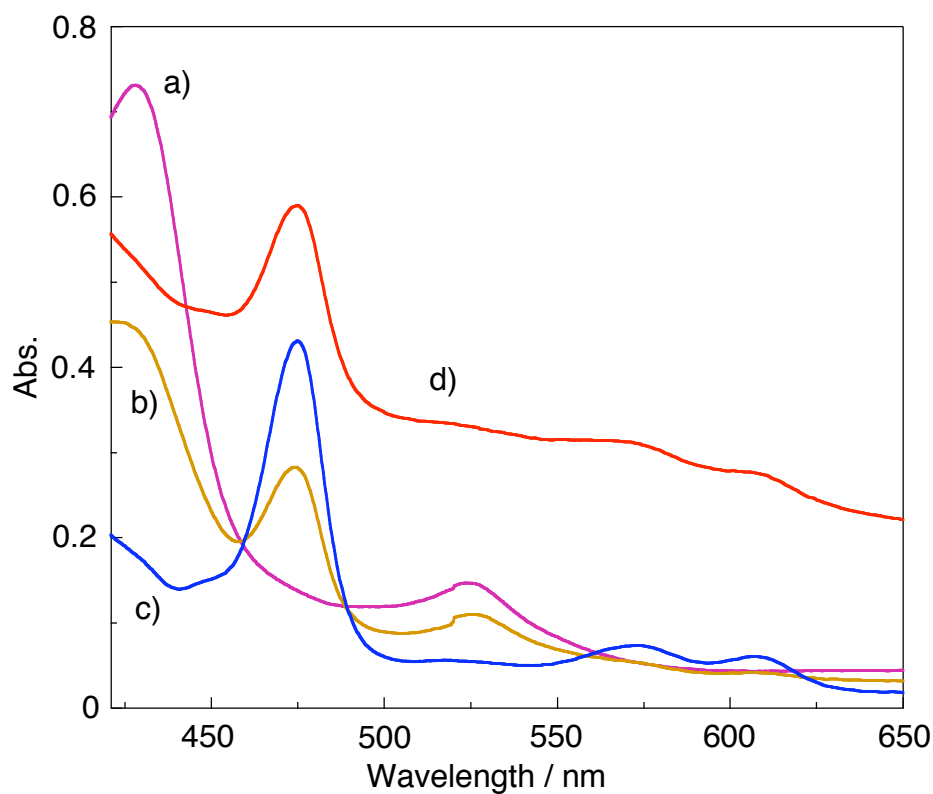


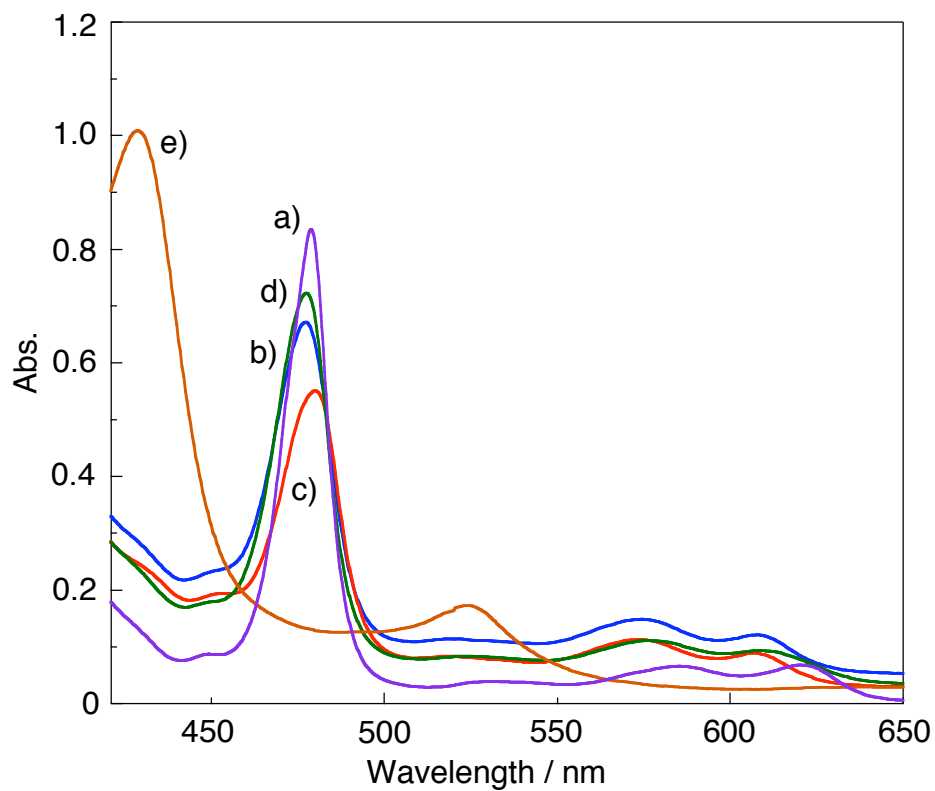
*(Electronic Supplementary Information)*

**Mechanistic insights into the co-catalyst effect of Au clusters in Mn-porphyrin-catalyzed olefin oxidation**

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**S-Fig. 1** Absorption spectra in CH<sub>2</sub>Cl<sub>2</sub> at 25 °C of the filtered reaction mixtures of **1**/Mn(TPP)Cl after 2 h of reaction under the conditions given in Figure 2. [**1**]<sub>0</sub> / [Mn(TPP)Cl]<sub>0</sub> = a) 0, b) 0.2, c) 0.3, and d) 1.0.



**S-Fig. 2.** Absorption spectra in  $\text{CH}_2\text{Cl}_2$  at 25 °C of  $\text{Mn}(\text{TMP})\text{Cl}$  (a) and the filtered reaction mixtures of  $\text{Mn}(\text{TMP})\text{Cl}/\text{Au}$  cluster systems coupled with b)  $\text{Au}:\text{SC12}$  (blue), c)  $\text{Au}:\text{SBn}$  (red), d)  $\text{Au}:\text{PPh}_3$  (green), and e)  $\text{Au}:\text{PVP}$  (orange) after 2 h of reaction under the conditions in Figure 7.