Supplementary Information for

Remarkable enhancement of catalytic activity of a 2:1 complex between a non-planar Mo(V)-porphyrin and a ruthenium-substituted Keggin-type heteropolyoxometalate in catalytic oxidation of benzyl alcohols

Atsutoshi Yokoyama,a,b Kei Ohkubo,a Tomoya Ishizuka,c Takahiko Kojima,*c and Shunichi Fukuzumi*a,b

a Department of Material and Life Science, Graduate School of Engineering, Osaka University, ALCA, Japan Science and Technology Agency (JST), 2-1 Yamada-oka, Suita, Osaka 565-0871, Japan. E-mail: fukuzumi@chem.eng.osaka-u.ac.jp
b Department of Bioinspired Chemistry (WCU), Ewha Womans University, Seoul 120-750, Korea
c Department of Chemistry, Graduate School of Pure and Applied Science, University of Tsukuba, 1-1-1 Tennoudai, Tsukuba, Ibaraki 305-8571, Japan. E-mail: kojima@chem.tsukuba.ac.jp
Fig. S1. MALDI-TOF-MS spectra in the negative mode: (a) 3 before the oxidation reaction; (b) after the oxidation reaction of benzylalcohol by 3 and PhIO in CDCl₃. The peaks at \( m/Z = 5499 \) and \( m/Z = 5268 \) were assigned to that of \( \{3 + \text{ClO}^-\}^- \) (calcd. 5497) and that of \( \{3 - 2\text{Ph} - \text{O}\}^- \) (calcd. 5275), respectively.
Fig. S2 A Hammett plot for the pseudo-first-order rate constants of oxidations of benzyl alcohol derivatives by 3 and PhIO in CDCl$_3$. The $\sigma$ values were adopted from S. H. Pine, in *Organic Chemistry (5th Ed.)*, McGraw-Hill, New York, 1987.

$\log k = 1.91 \pm 0.31$