Supporting information

Experimental

The catalyst was characterized with ICP. The ICP measurements were conducted on a Perkin Elmer Plasma 400. The result indicates that the catalyst has a P/V/Mo ratio of 1/2.14/9.37, which is close to the formula ratio. The infrared spectra were recorded on a Nicolet 6700. X-ray powder diffraction (XRD) patterns were performed on a Shimadzu XRD-6000. The 2θ angles were scanned from 5° to 90°. NMR spectra were recorded on a Bruker AV 600 spectrometer. The field frequency stabilization was locked to deuterium by placing a coaxial inner tube with D_2O into 10 mm tube containing the sample. The chemical shifts were quoted in ppm from $VOCl_3$. UV-vis spectra of the solutions before and after the reaction were recorded on an UV-vis spectrophotometer TU-1901, using 10 mm closed cells at room temperature.

Figures

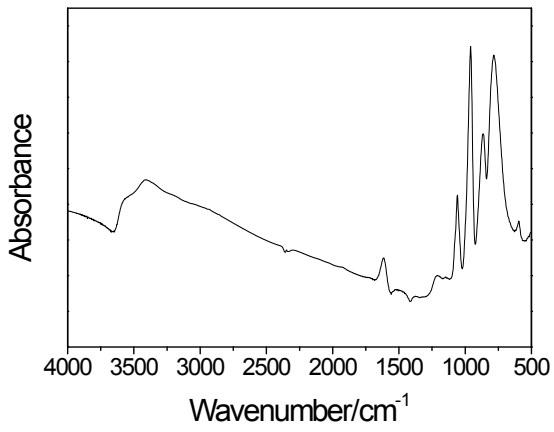

Fig. S1 FTIR spectrum of $H_5PV_2Mo_{10}O_{40}$.

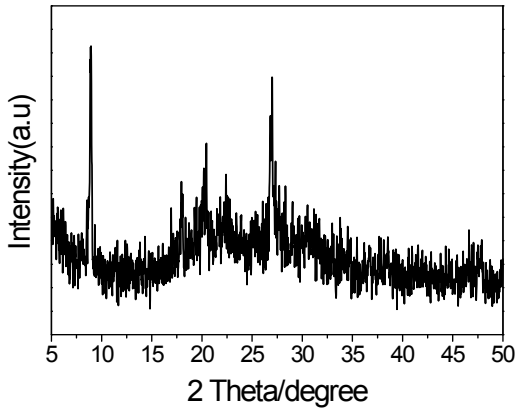

Fig. S2 XRD spectrum of $H_5PV_2Mo_{10}O_{40}$.

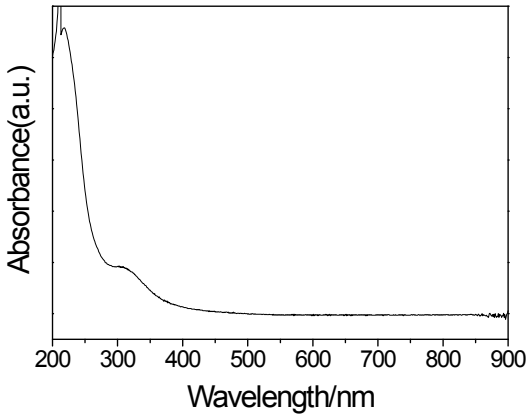

Fig. S3 UV-vis spectrum of $H_5PV_2Mo_{10}O_{40}$.

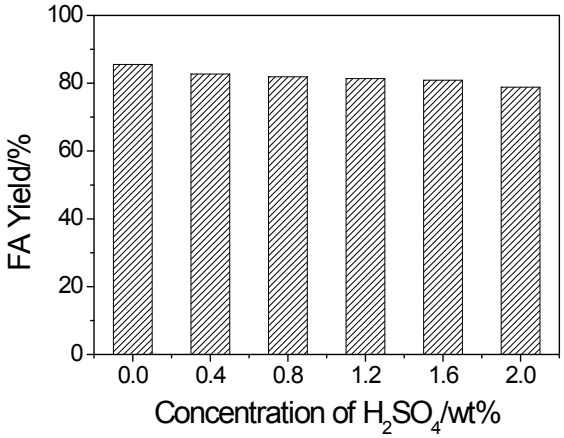

Fig. S4 Stability of FA in $H_5PV_2Mo_{10}O_{40}$ + H_2SO_4 aqueous solutions with O_2 at different acid concentrations. Conditions: FA, 0.24g; catalyst, 0.10g; reaction time, 5 min; temperature, 180 ^oC; H_2O, 6 cm^3; O_2, 3 MPa.