

Supporting Information

Fig. S1 (a) Low-angle XRD patterns of various $\text{H}_3\text{PW}_{12}\text{O}_{40}/\text{ZrO}_2\text{-Si(Ph)Si}$ samples and $\text{H}_3\text{PW}_{12}\text{O}_{40}/\text{ZrO}_2$, and (b) wide-angle XRD patterns of $\text{H}_3\text{PW}_{12}\text{O}_{40}/\text{ZrO}_2\text{-Si(Ph)Si}$ hybrid materials, ZrO_2 and pure $\text{H}_3\text{PW}_{12}\text{O}_{40}$.

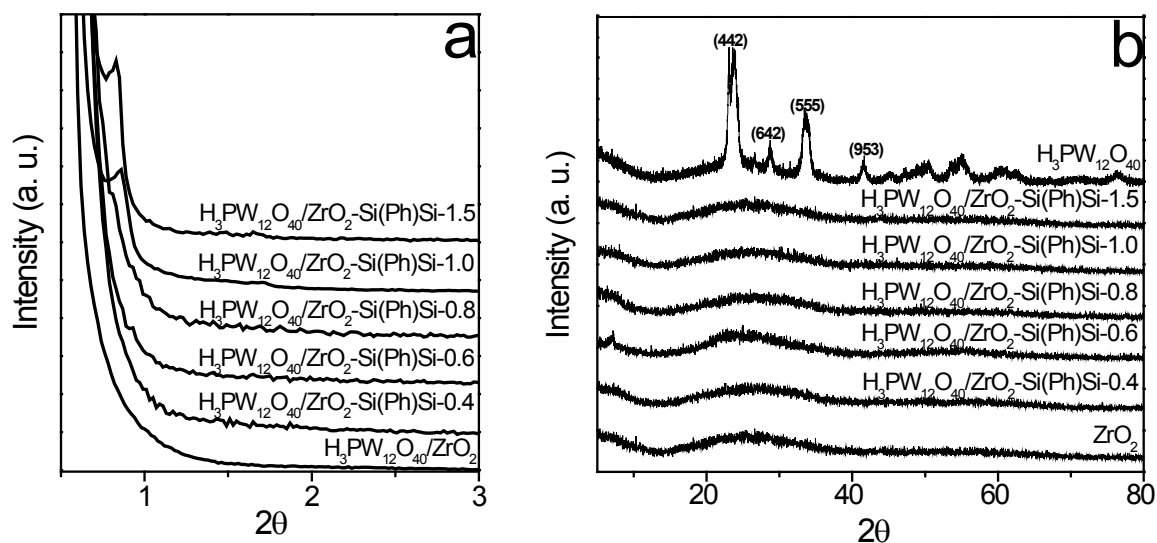


Fig. S2 ^{29}Si MAS NMR spectra of $\text{H}_3\text{PW}_{12}\text{O}_{40}/\text{ZrO}_2\text{-Si(Ph)Si-1.0}$ (a) and $\text{H}_3\text{PW}_{12}\text{O}_{40}/\text{ZrO}_2\text{-Si(Ph)-1.0}$ (b) hybrid materials.

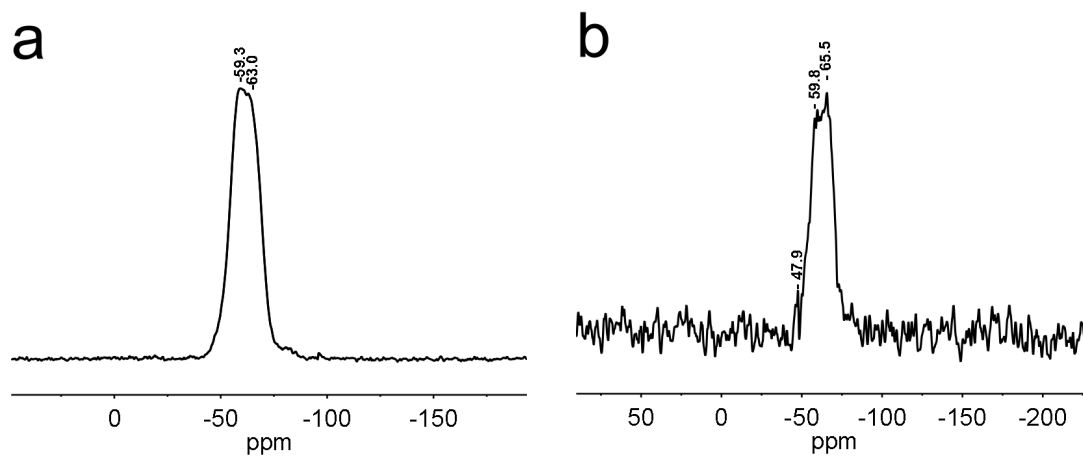


Fig. S3 FTIR spectra of pyridine adsorbed on ZrO_2 (a), $\text{H}_3\text{PW}_{12}\text{O}_{40}/\text{ZrO}_2\text{-Si(Ph)Si-1.0}$ (c) and $\text{H}_3\text{PW}_{12}\text{O}_{40}/\text{ZrO}_2$ (e) hybrid catalysts. Spectra of (d), (d) and (f) relate to ZrO_2 , $\text{H}_3\text{PW}_{12}\text{O}_{40}/\text{ZrO}_2\text{-Si(Ph)Si-1.0}$ and $\text{H}_3\text{PW}_{12}\text{O}_{40}/\text{ZrO}_2$ before adsorption of pyridine.

