

Fig. S1. The CMC of $[C_{16}]_4H_2SiW_{10}V_2$ at 25°C

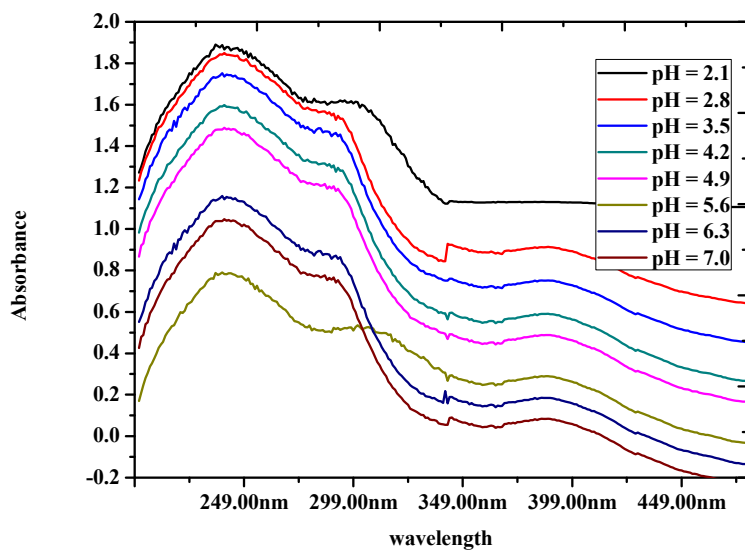


Fig. S2. The UV-vis spectrum of peroxy-polyoxometalate at different pH

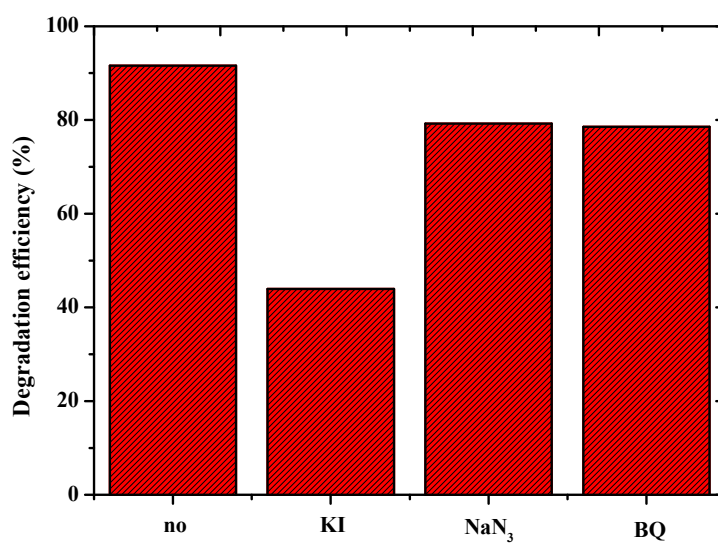


Fig. S3. Effects of scavenging agents on degradation of phenol in the presence of 2mM of 1,4-benzoquinone (BQ), NaN₃ and KI with [C₁₆]₄H₂SiW₁₀V₂ (0.80mM) with H₂O₂ (0.23M) for 90 min

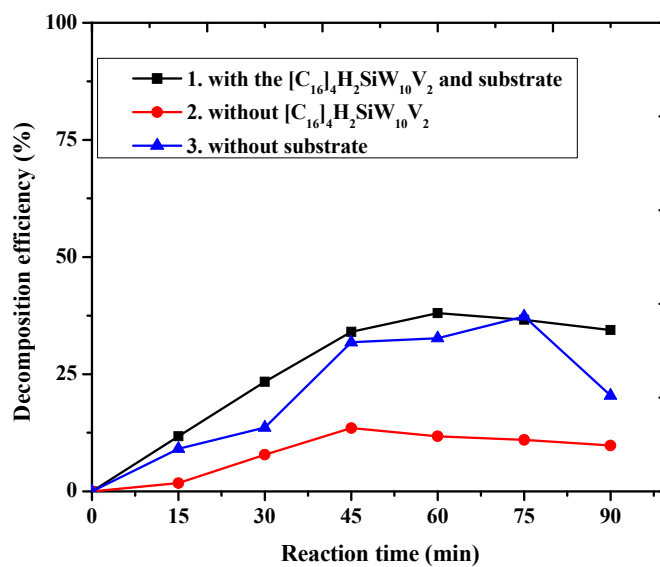


Fig. S4. The decomposition efficiency of (1) hydrogen peroxide with the catalyst and substrate, (2) hydrogen peroxide without catalyst, (3) hydrogen peroxide without substrate

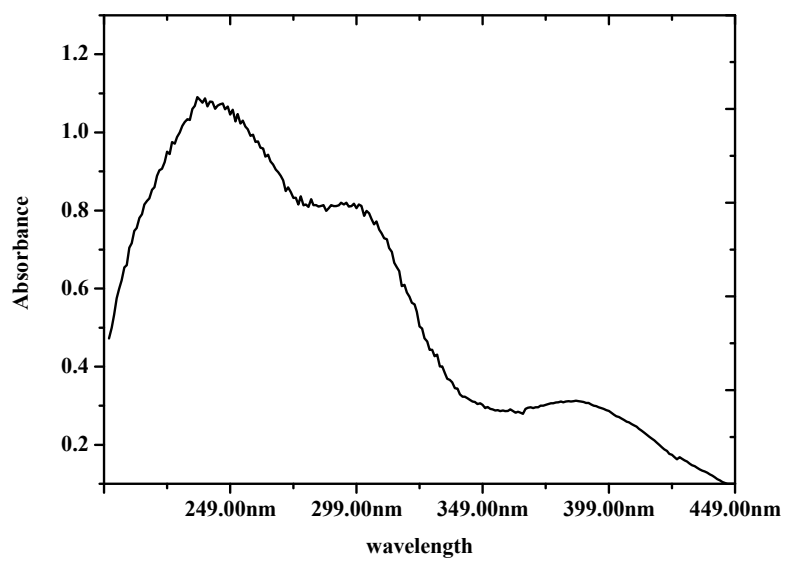


Fig. S5. The UV-vis spectrum of peroxy-polyoxometalate at pH = 2.1 ($\text{Na}_2\text{SO}_4\text{-H}_2\text{SO}_4$)