



Fig. S1. The CEL-SPH2N system for photocatalytic performance tests

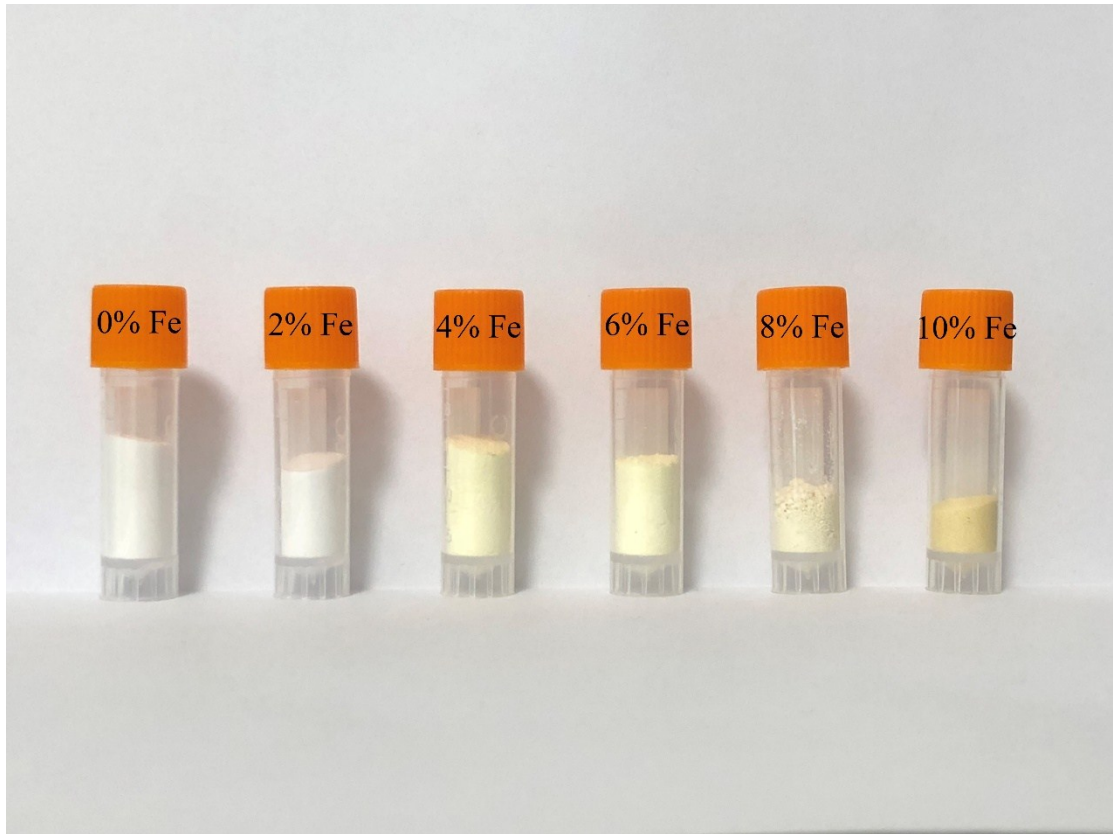


Fig. S2. The photograph of bare Ga-PKU-1 and Ga-PKU-1: $x\text{Fe}^{3+}$ ($x = 0.02 \sim 0.10$) samples taken with a digital camera

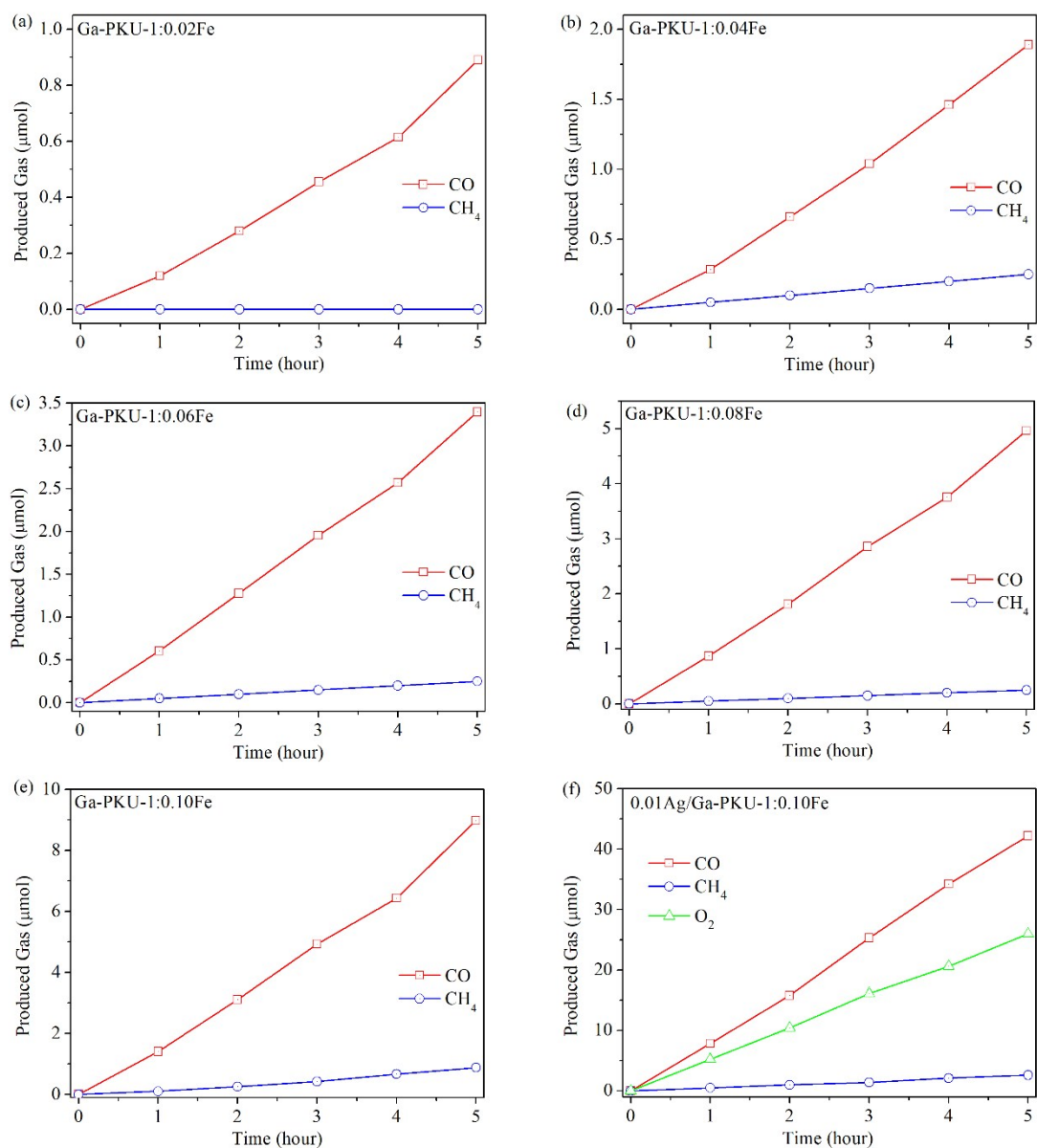


Fig. S3. (a)-(e) The yields of reduction and oxidation products over Ga-PKU-1:xFe³⁺ samples ($x = 0.02 \sim 0.10$); (f) The yields of reduction and oxidation products over 0.01Ag/Ga-PKU-1:0.10Fe³⁺ sample.