

Figure 1s. XRD of Fe/Ni-t10, Fe/Ni-t15(Fe/Ni-T120), Fe/Ni-t20.

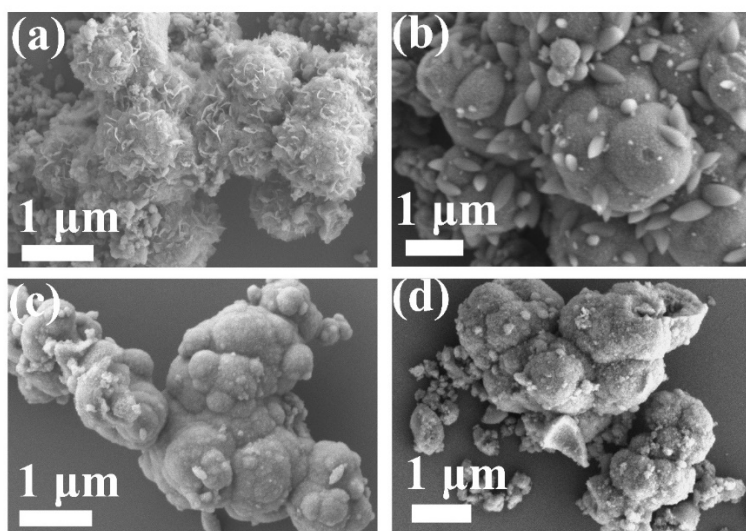


Figure 2s.(a) SEM images of Fe/Ni-t10, (b) Fe/Ni-t15(Fe/Ni-T120), (c)Fe/Ni-t20, (d)
Photocatalytic Fe/Ni- t15(Fe/Ni-T120).

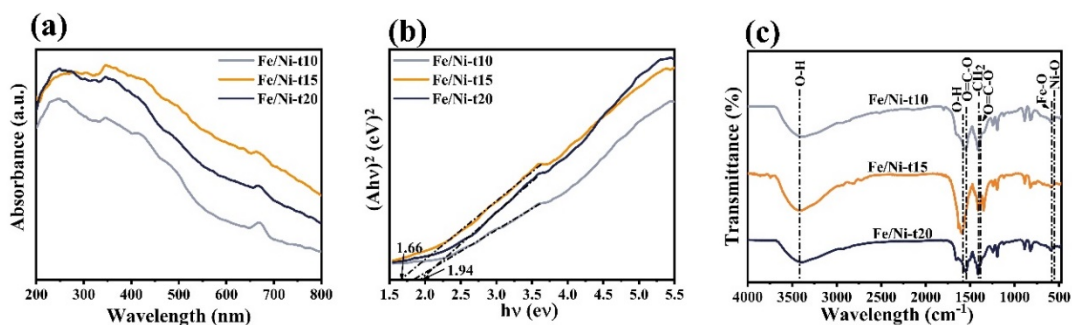


Figure 3s. (a) UV-vis DRS spectra, (b) Tauc plots, (c) FT-IR spectra of Fe/Ni-t10,
Fe/Ni-t15(Fe/Ni-T120) and Fe/Ni-t20.

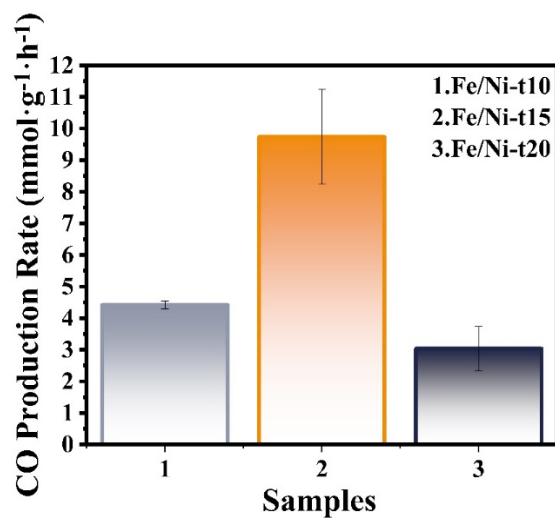


Figure 4s. CO production rate of Fe/Ni-t10、Fe/Ni-t15(Fe/Ni-T120) and Fe/Ni-t20.

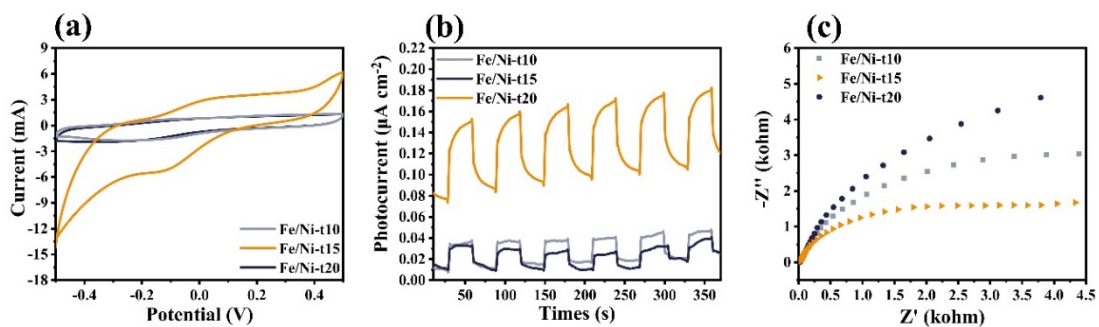


Figure 5s. (a) CV curves, (b) photocurrent response, (c) Nyquist plots of different photocatalyst samples of Fe/Ni-t10、Fe/Ni-t15(Fe/Ni-T120) and Fe/Ni-t20.