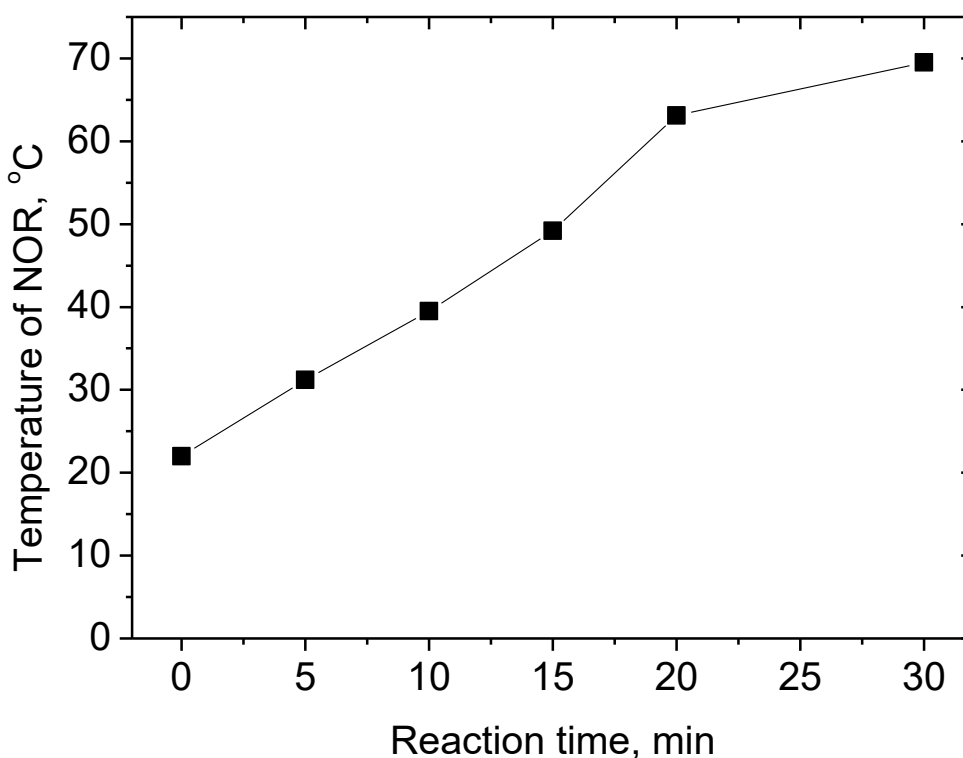
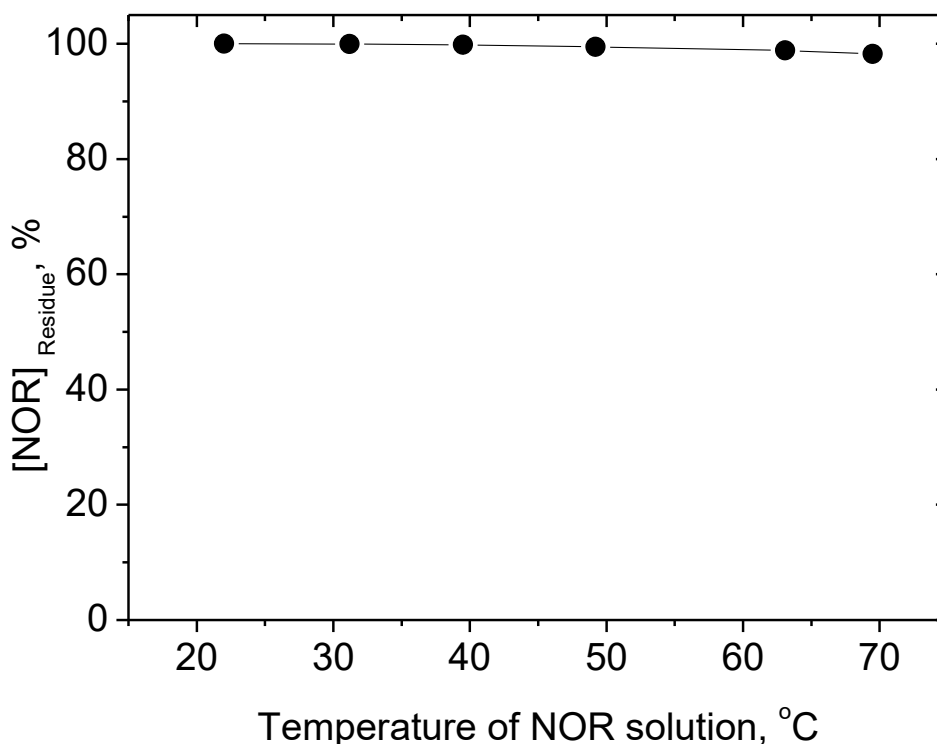




Dark control experiments without microwave and UV light irradiation were conducted on a heating plate, and the samples were collected under the same temperatures as those in the MW/UV process. Figure SM-5 displayed the temperature increasing of NOR during the 30 min reaction in the MW/UV process. The samples in dark control experiments were withdrawn and detected when the temperatures of NOR solution were heated to the same temperatures as those under 0 min, 5min, 10min, 15 min, 20 min, 25 min and 30 min of MW/UV irradiation, respectively. The dark control results were shown in Figure SM-6. NOR seemed almost stable under conventional heating in this experiment, which demonstrated that thermal effect did little impact on the degradation of NOR.

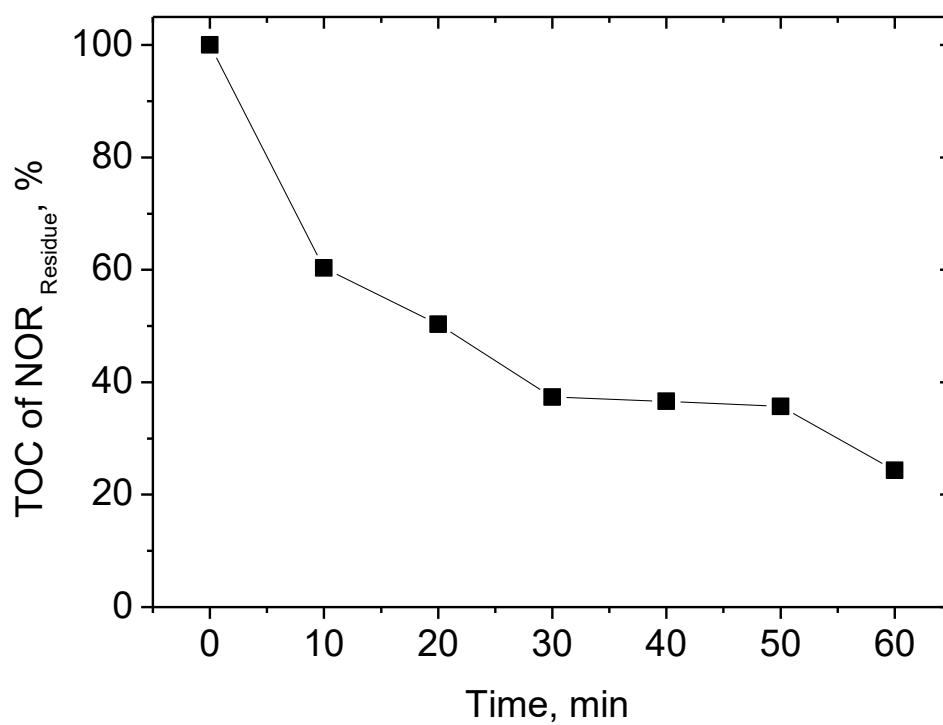


**Figure SM-5.** Temperature increasing of NOR in the MW/UV process. (Experimental conditions: microwave power = 500 W, UV light intensity = 31.8 mW/cm<sup>2</sup>, maximum wavelength = 254 nm, [NOR] = 5 mg/L, and pH = 6.72).



**Figure SM-6.** NOR degradation in conventional heating process. (Experimental conditions: heating plate power = 1500 W, [NOR] = 5 mg/L, and pH = 6.72).

The degradation of NOR by MW/UV process was extended to 60 min to investigate the further mineralization of NOR. The levels of TOC during the 60 min of MW/UV process were shown in Figure SM-7. When the reaction time was extended to 60 min, the residue of TOC could reduce to 24%. Results showed the gradual disintegration of NOR molecules in the MW/UV process. It was deduced that extending the reaction time could finally obtain complete mineralization of NOR, but using the MW/UV process as a pre-treatment and combined it with a normal microbial treatment would be more economic in practical NOR wastewater treatment project.



**Figure SM-7.** Removal of TOC during the degradation of NOR by the MW/UV process. (Experimental conditions: microwave power = 500 W, UV light intensity = 31.8 mW/cm<sup>2</sup>, maximum wavelength = 254 nm, [NOR] = 5 mg/L, and pH = 6.72).