

Supplementary Materials

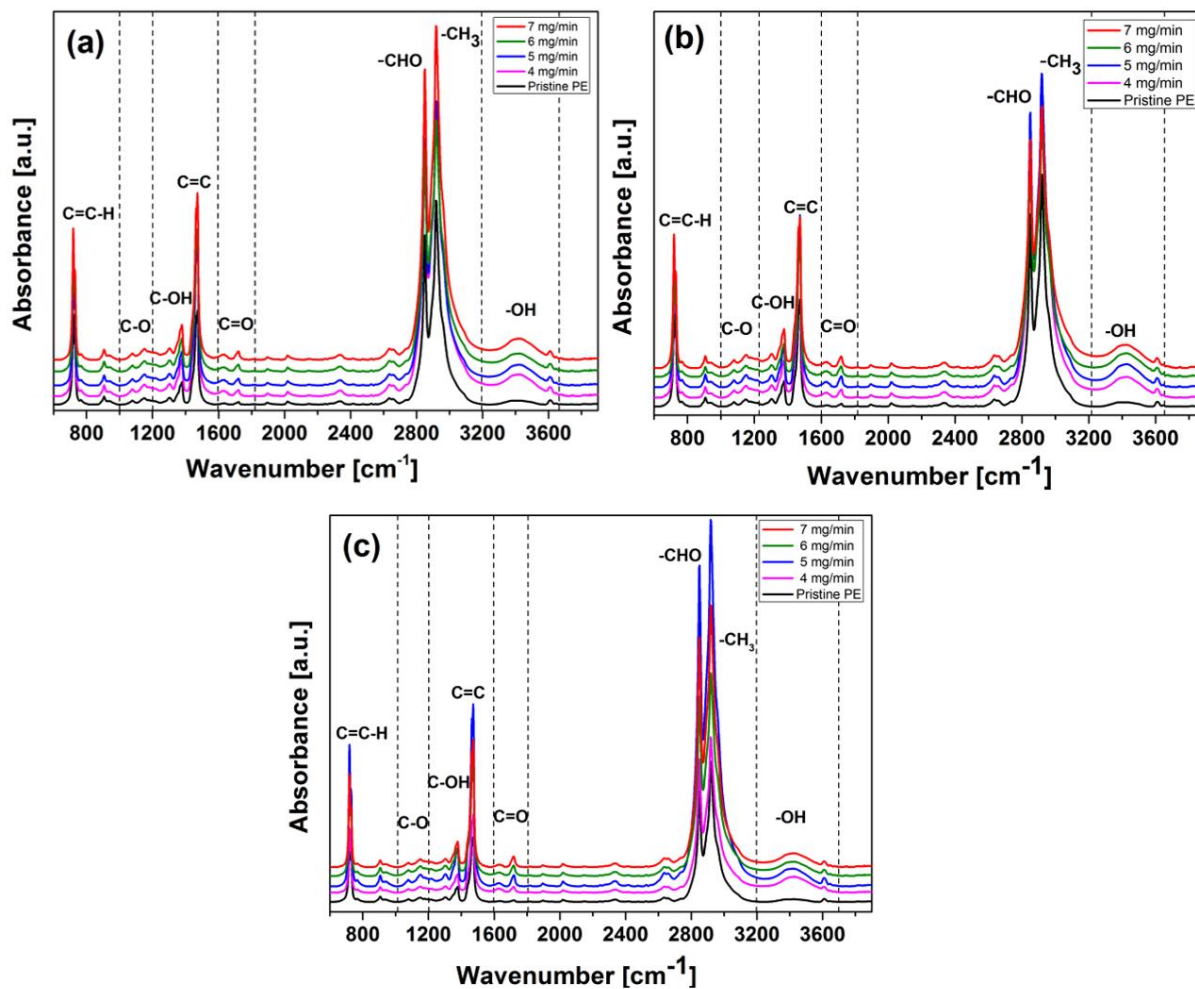
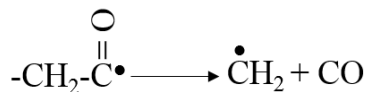
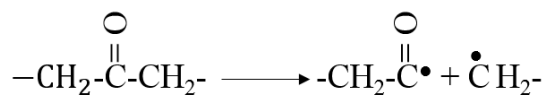
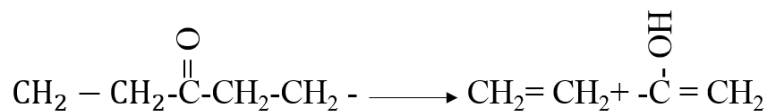


Fig. S1. FTIR spectra within overall wavenumber range from 400 to 4,000 cm^{-1} of ozonated PE MP particles for (a) 60, (b) 120, and (c) 180 min at the ozone dosages of 4, 5, 6, and 7 mg/min, respectively.



(a) Norrish I



(b) Norrish II

Fig. S2. The general pathway for (a) Norrish type I and (b) Norrish type II reactions during oxidation of PE MP particles.

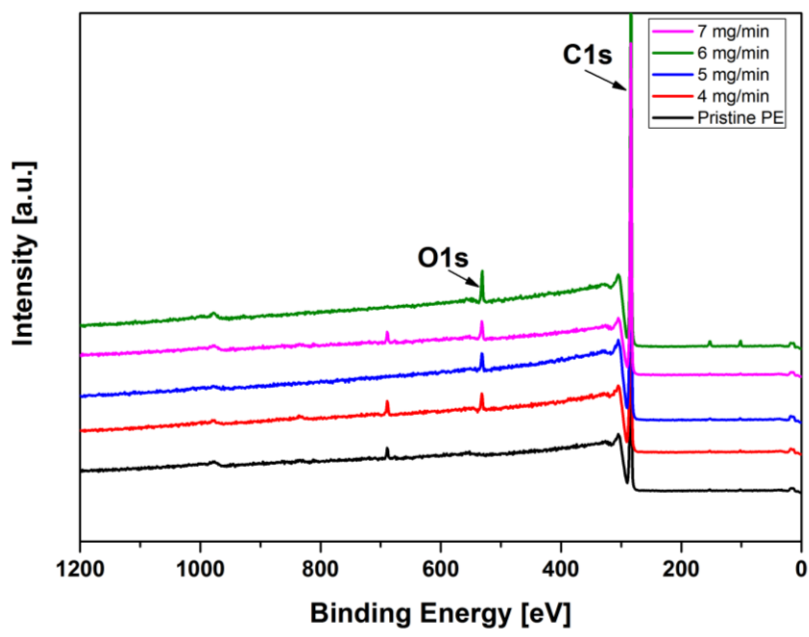


Fig. S3. Low-resolution XPS spectrum of ozonated PE MP particles for the ozone dosage of 4, 5, 6 and 7 mg/min after the surficial oxidation treatment for 180 min.