

A new look at the chemical recycling of polypropylene: thermal oxidative destruction in aqueous oxygen-enriched medium

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Supplementary information

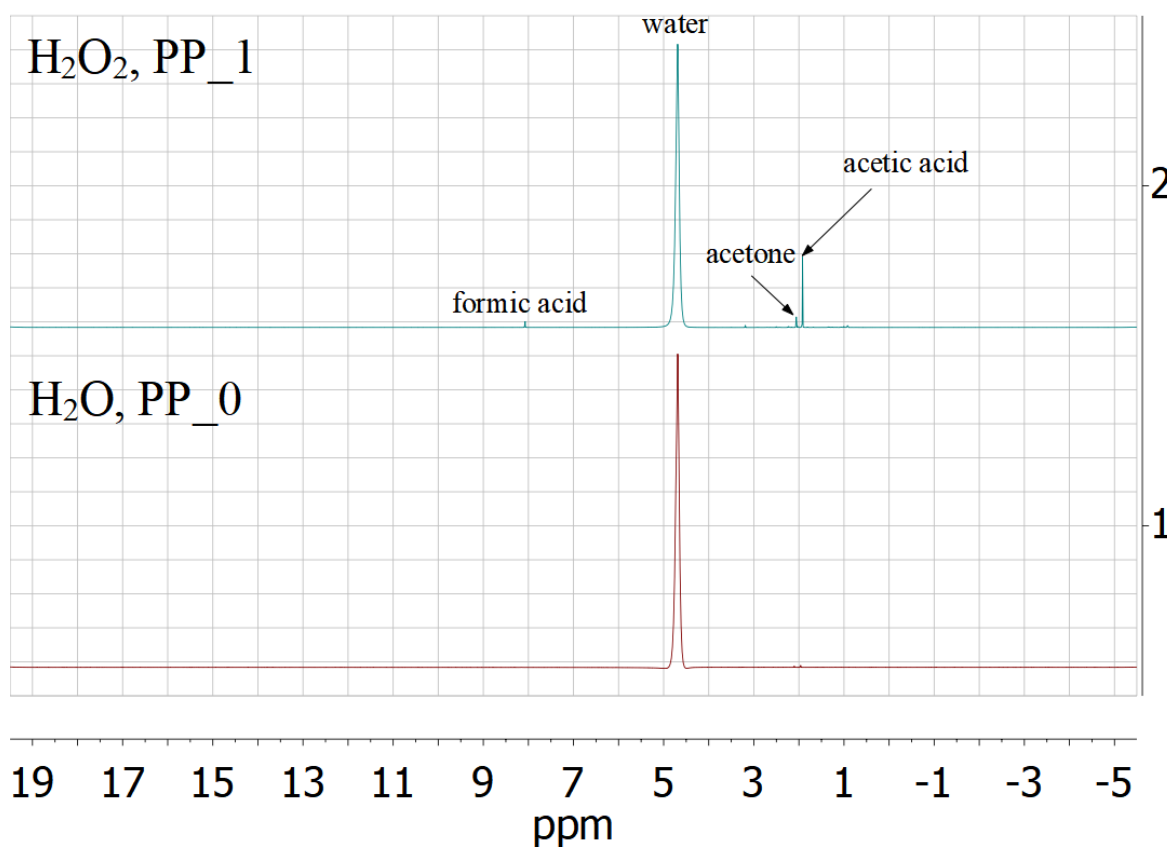


Figure S1. ¹H NMR spectra of the products of thermal oxidation of PP in a sealed autoclave with water and with hydrogen peroxide at 150 °C.

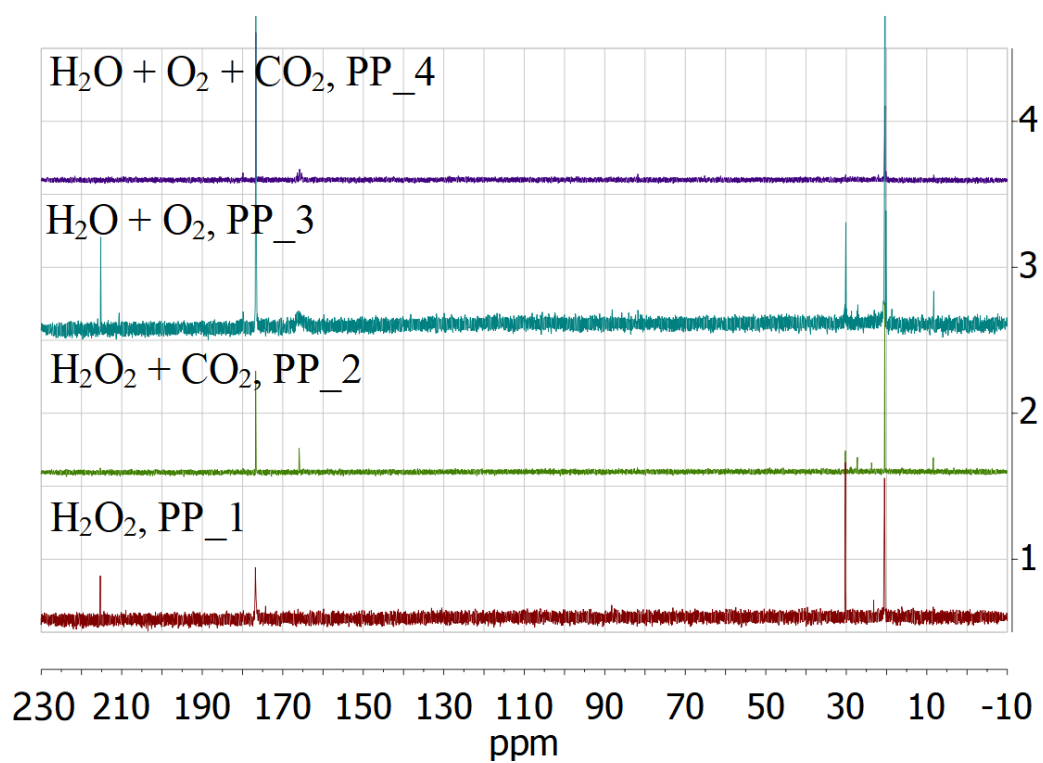


Figure S2. ^{13}C NMR spectra of thermal oxidation products obtained in a sealed autoclave with various oxidative media at 150 °C.

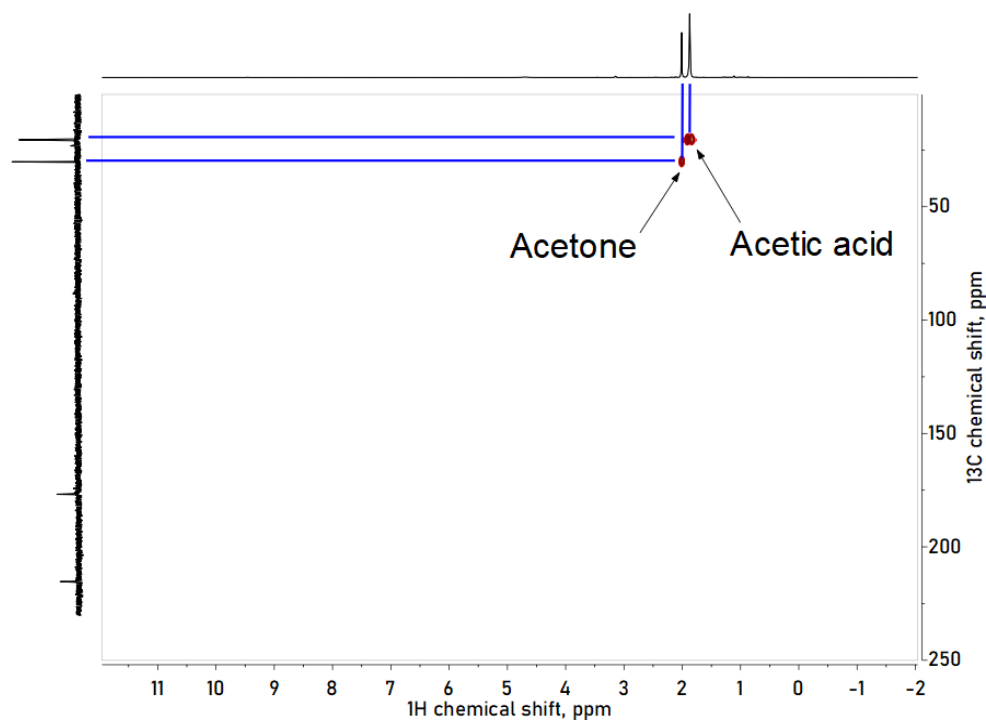


Figure S3. ^1H - ^{13}C HMQC NMR spectrum, obtained for the products of thermal decomposition in a sealed autoclave with H_2O_2 at 150 °C (PP_1).

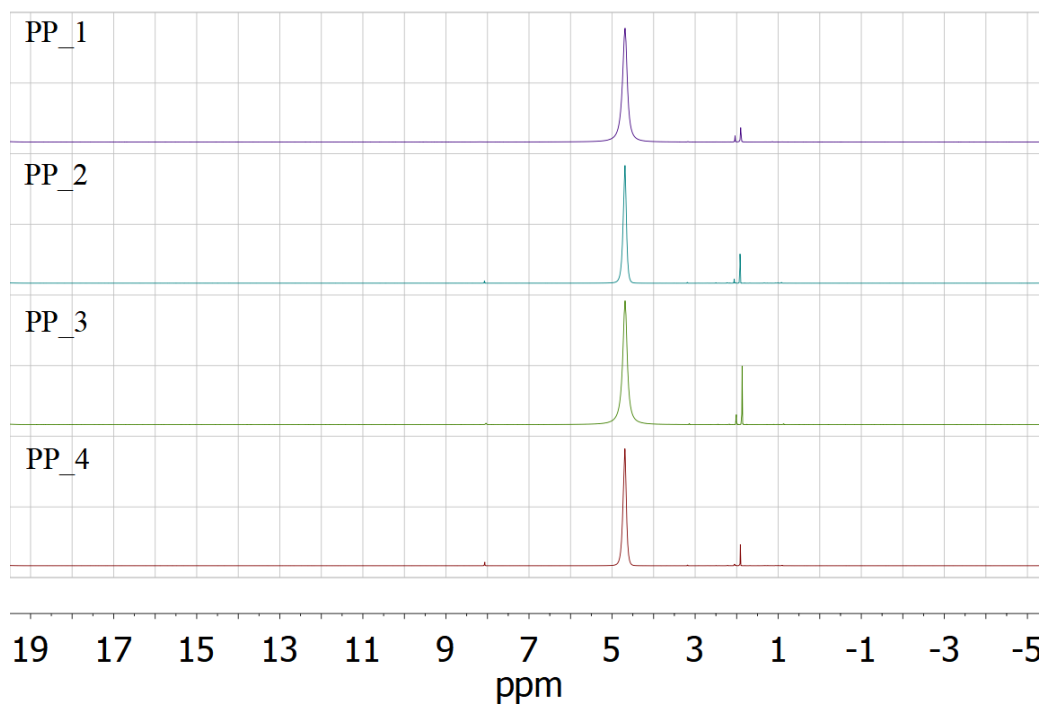


Figure S4. ^1H NMR spectra without water suppression of thermal oxidation products obtained in a sealed autoclave with various oxidative media at 150 °C.

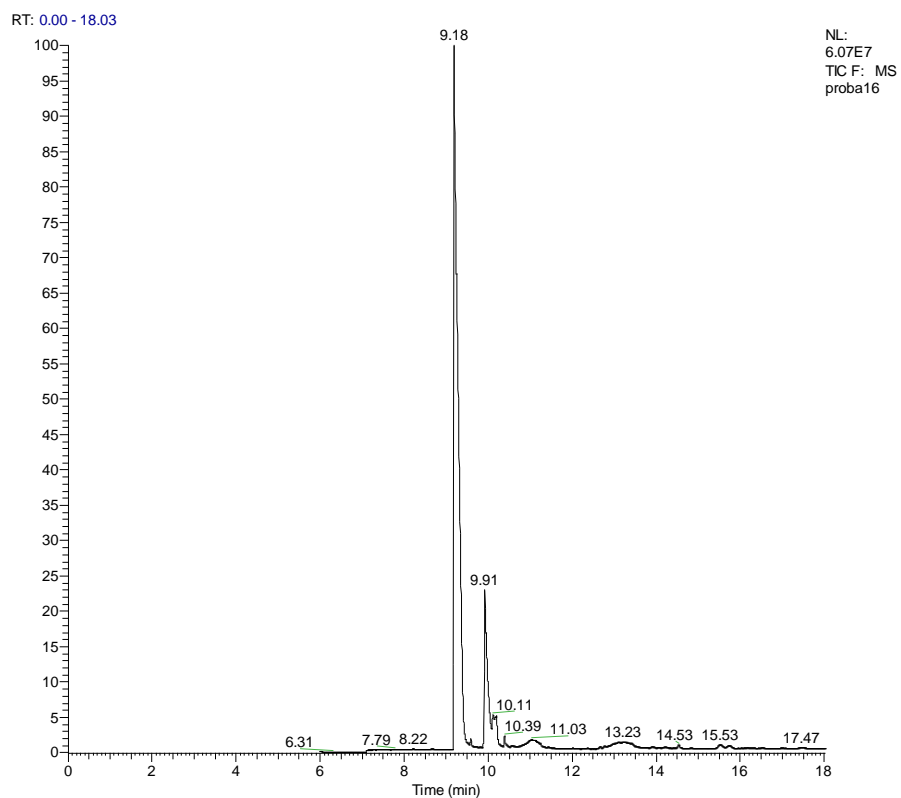


Figure S5. GC-MS spectrum for the products of thermal destruction of polypropylene in a sealed autoclave with H_2O_2 at 150 °C.

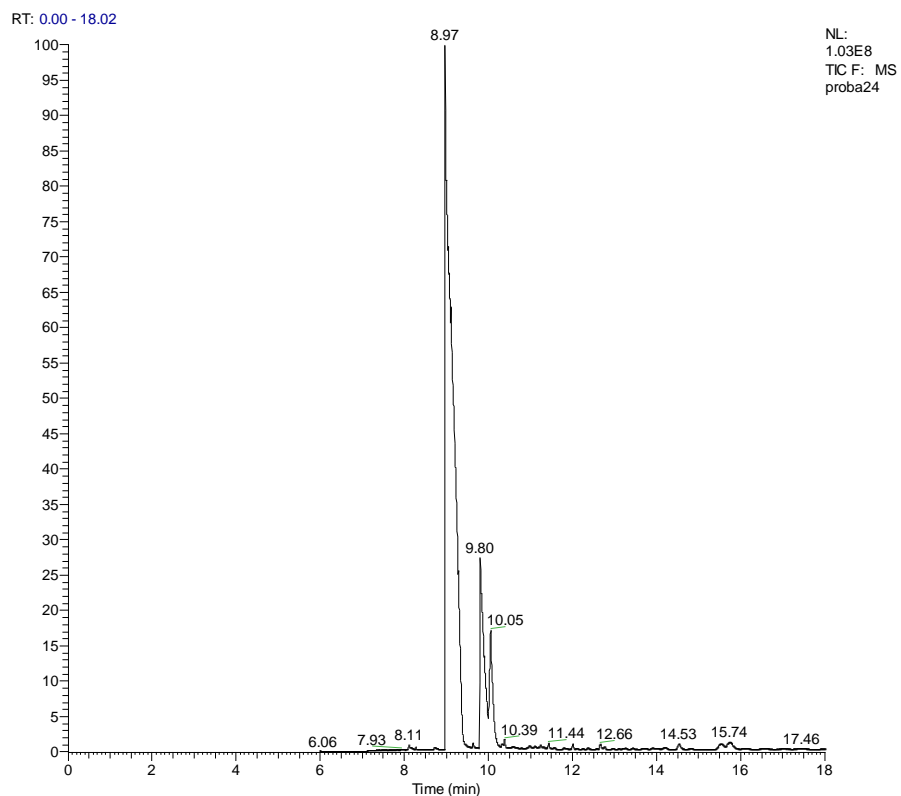


Figure S6. GC-MS spectrum for the products of thermal destruction of polypropylene in a sealed autoclave with $\text{H}_2\text{O}_2 + \text{CO}_2$ at 150 °C.

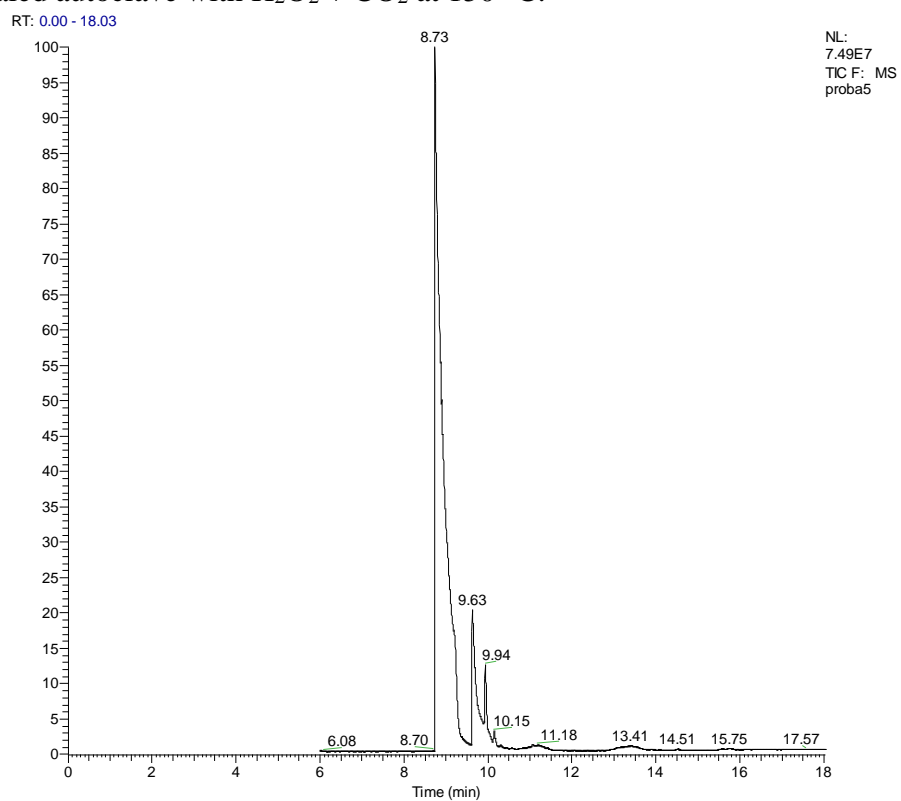


Figure S7. GC-MS spectrum for the products of thermal destruction of polypropylene in a sealed autoclave with $\text{H}_2\text{O} + \text{O}_2$ at 150 °C.

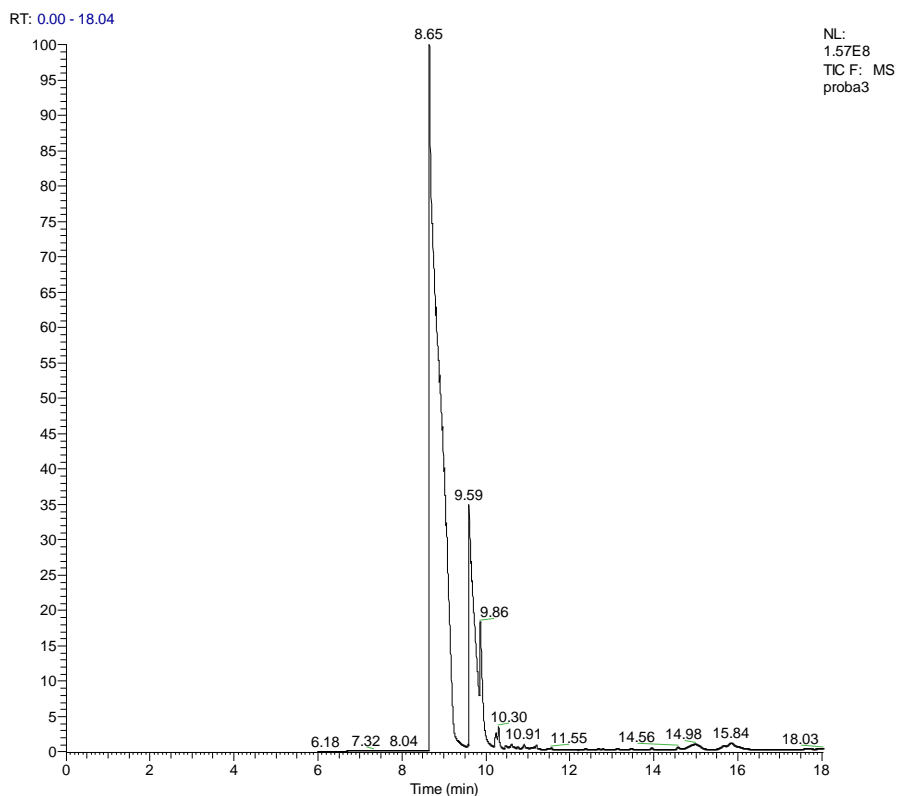


Figure S8. GC-MS spectrum for the products of thermal destruction of polypropylene in a sealed autoclave with H_2O + O_2 + CO_2 at 150 °C.

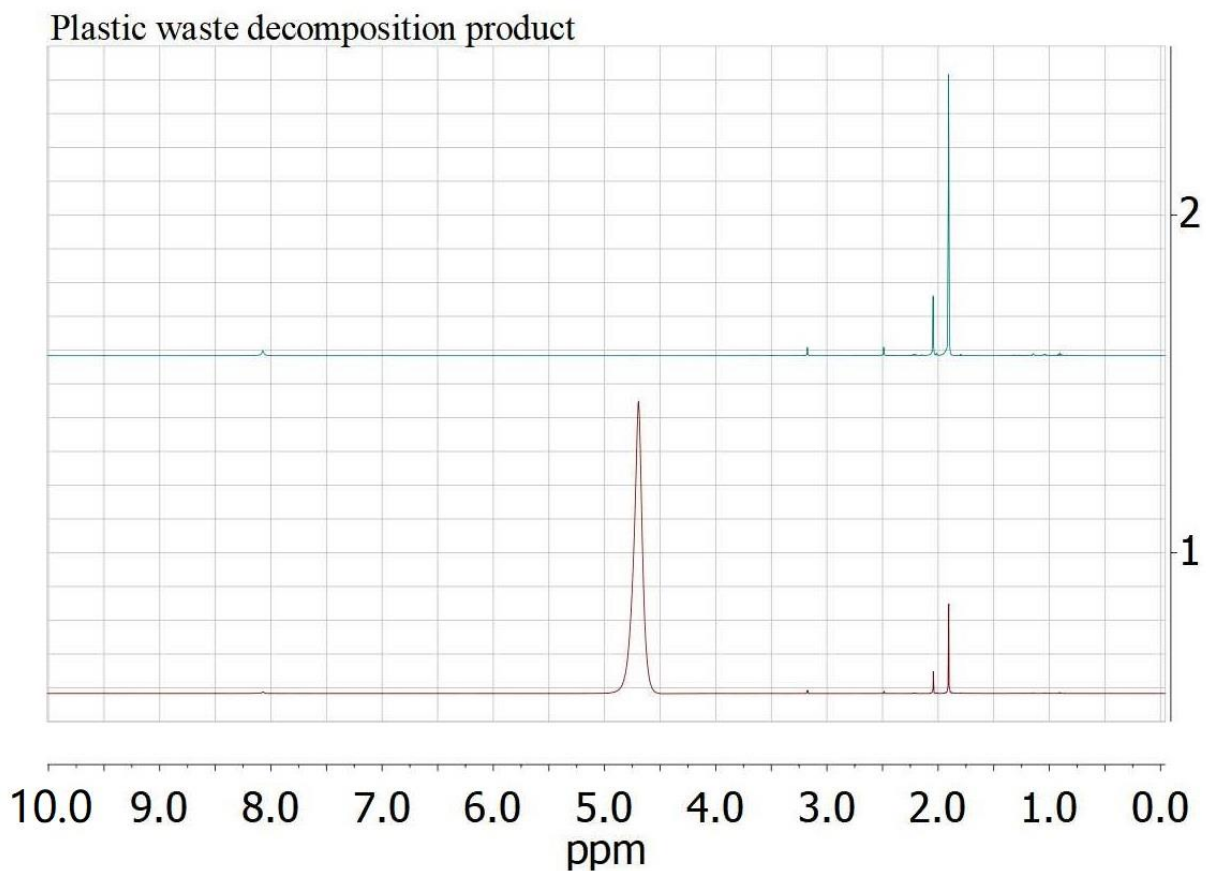


Figure S9. ^1H NMR spectra of the product of decomposition of plastic waste. Lower image without water suppression, upper image with water suppression.