10.1071/EN17137_AC

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Environmental Chemistry 2017, 14(8), 486-494

Supplementary Material

Activation of sodium percarbonate with ferrous ions for degradation of chlorobenzene in aqueous solution: Mechanism, pathway and comparison with hydrogen peroxide

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This supplementary material contains the following sections:

Section S1

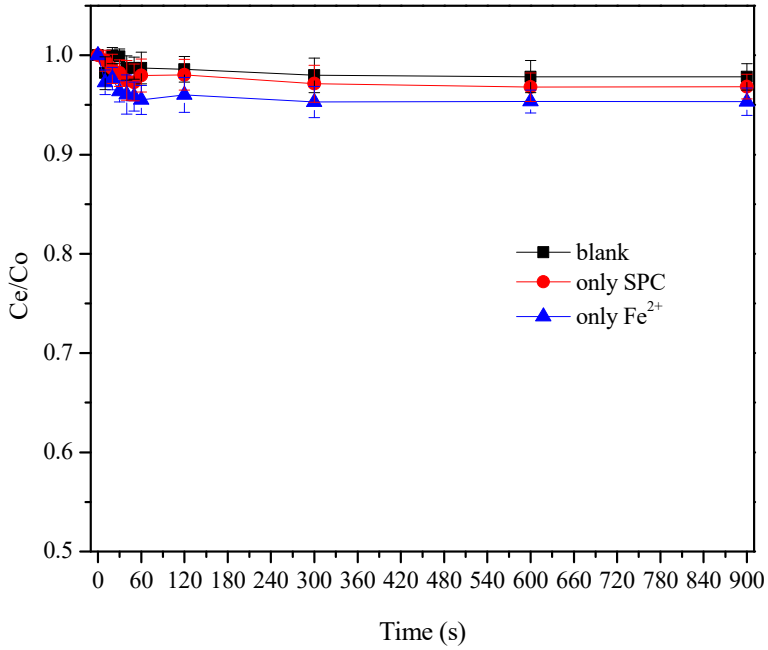


Fig. S1. Control experiments for chlorobenzene degradation ([chlorobenzene]$_0$ = 1.0 mM, [Fe^{2+}]$_0$ = 2.0 mM, [SPC]$_0$ = 1.0 mM, pH$_0$ = 6.6).

Section S2

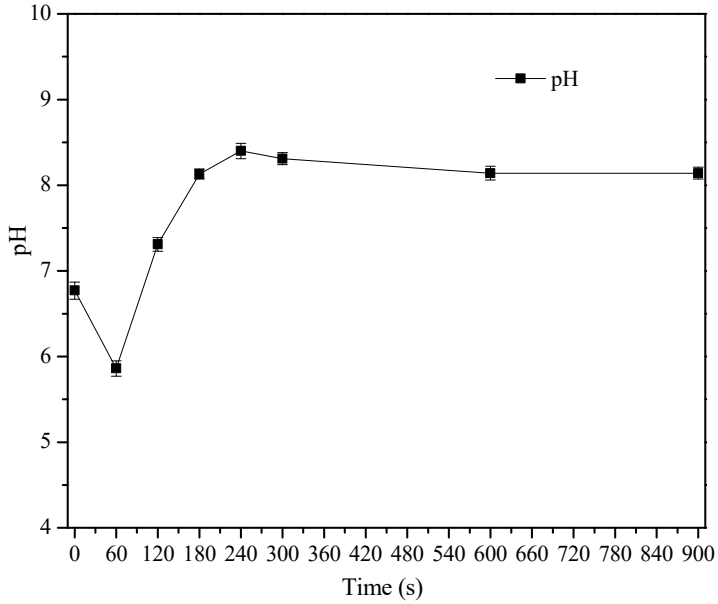


Fig. S2. pH variation during chlorobenzene degradation at a high SPC ratio ([chlorobenzene]$_0$ = 1.0 mM, [Fe^{2+}]$_0$ = 8.0 mM, [SPC]$_0$ = 8.0 mM, pH$_0$ = 6.6).

Section S3

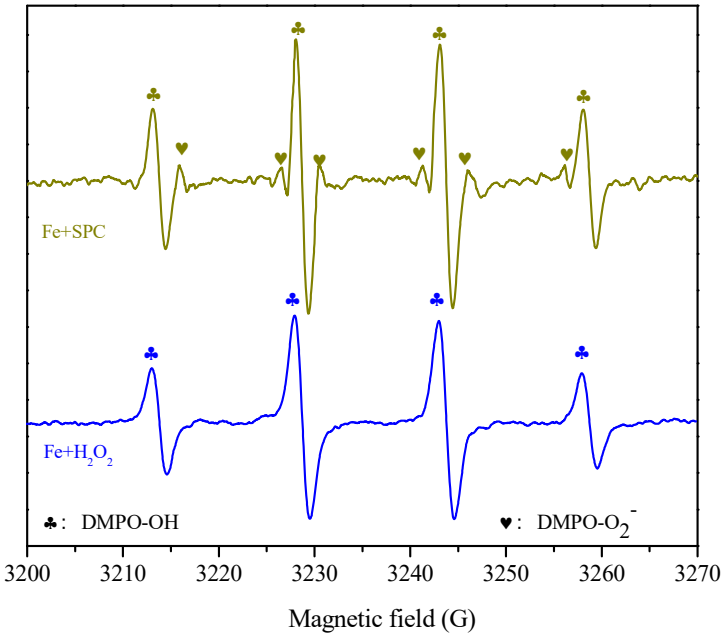


Fig. S3. EPR spectra of the Fe^{2+}/SPC system with DMPO as a spin-trapping agent ([chlorobenzene]$_0$ = 1.0 mM, [Fe^{2+}]$_0$ = 2.0 mM, [SPC]$_0$ = 1.0 mM, [DMPO] = 100.0 mM, pH$_0$ = 6.6).

Section S4

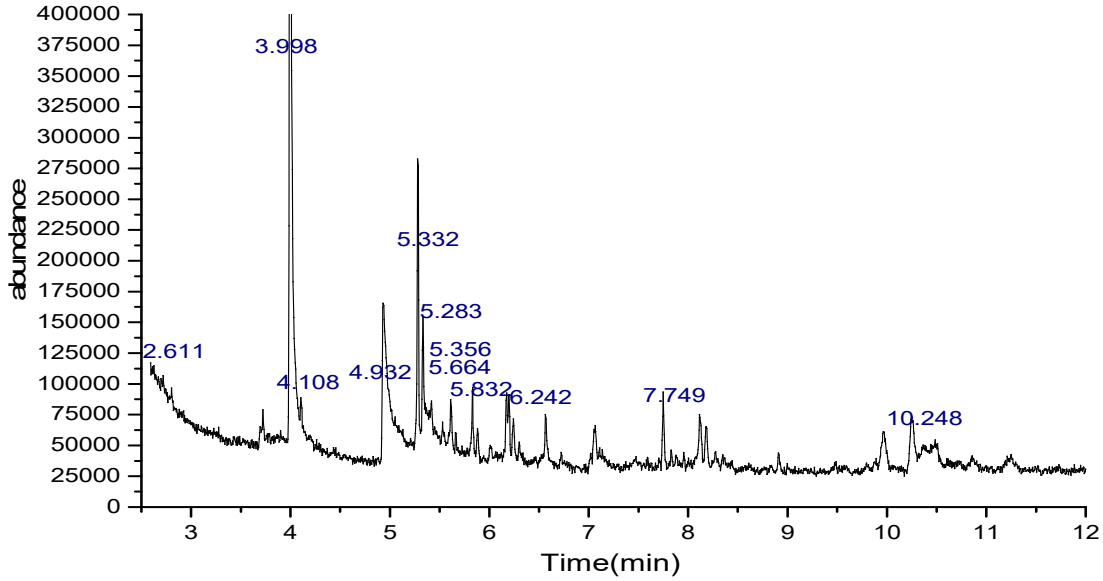
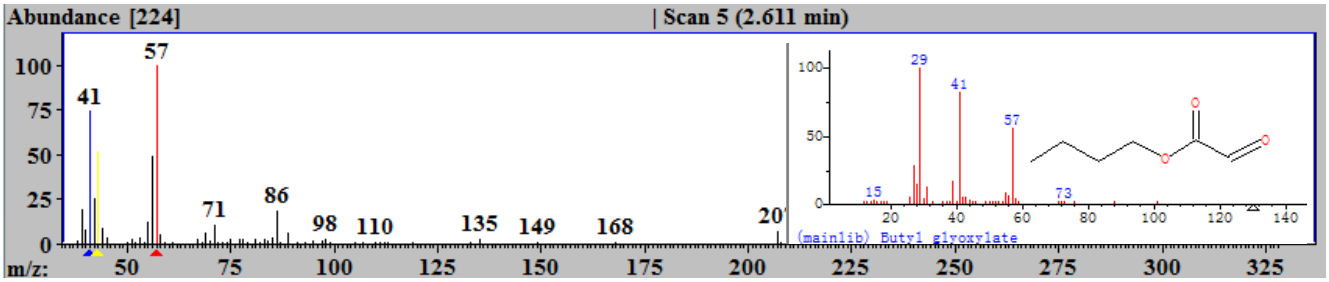
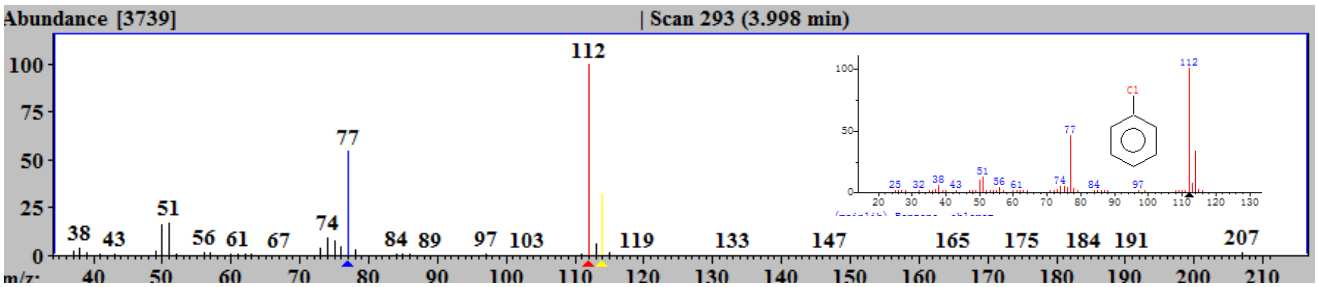
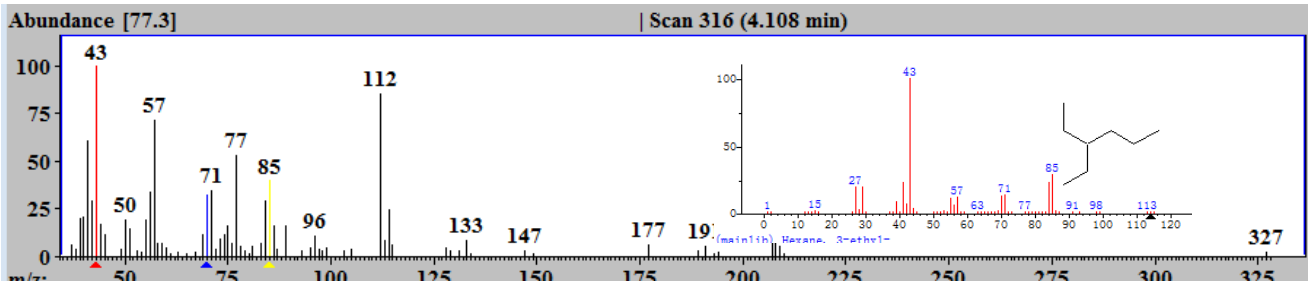


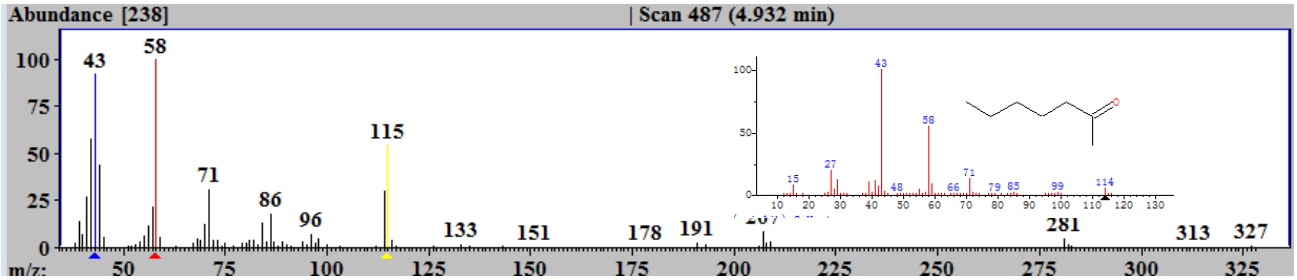
Fig. S4. GC/MS chromatograms of the intermediates of chlorobenzene degradation ([chlorobenzene]$_0$ = 1.0 mM, [Fe^{2+}]$_0$ = 2.0 mM, [SPC]$_0$ = 1.0 mM, pH$_0$ = 6.6).

Section S5


Abundance [224]
| Scan 5 (2.611 min)
(mainlib) Butyl glyoxylate


Abundance [3739]
| Scan 293 (3.998 min)


Abundance [77.3]
| Scan 316 (4.108 min)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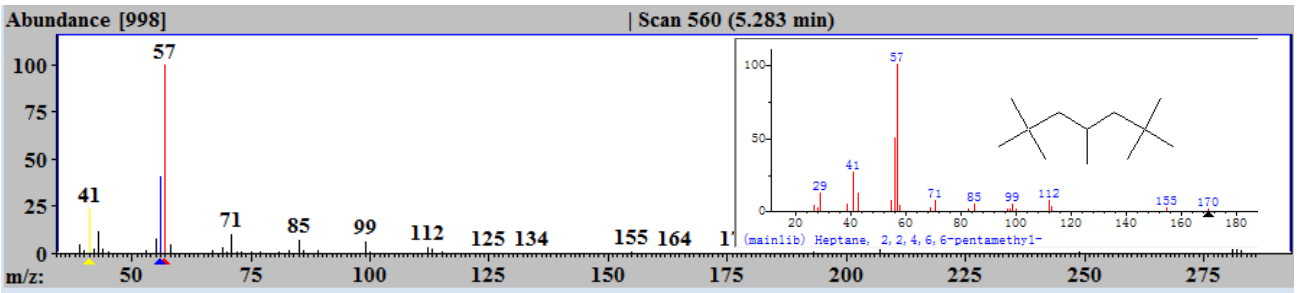
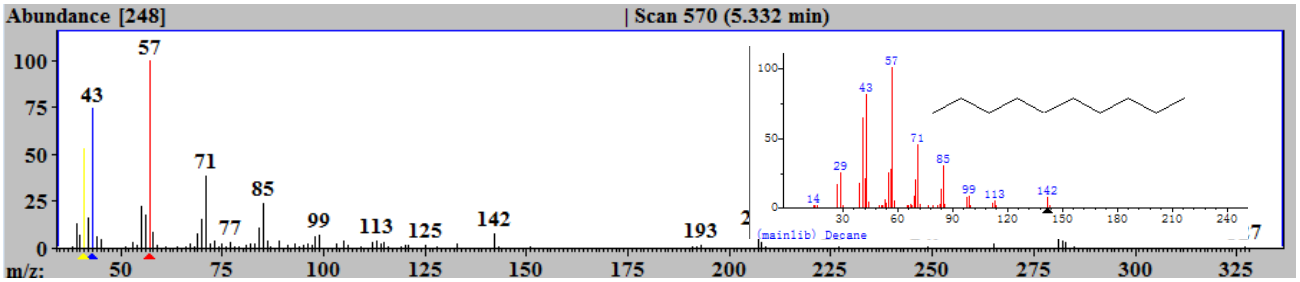

Abundance [998]
| Scan 560 (5.283 min)
(mainlib) Heptane, 2,2,4,6,6-pentamethyl-

57



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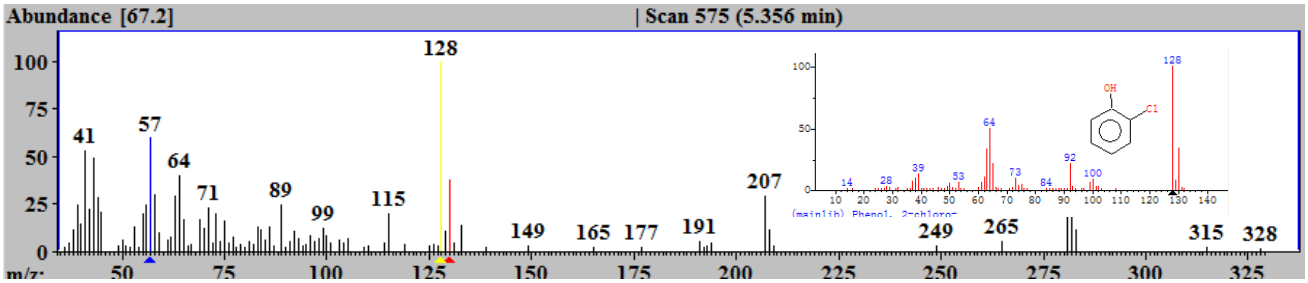

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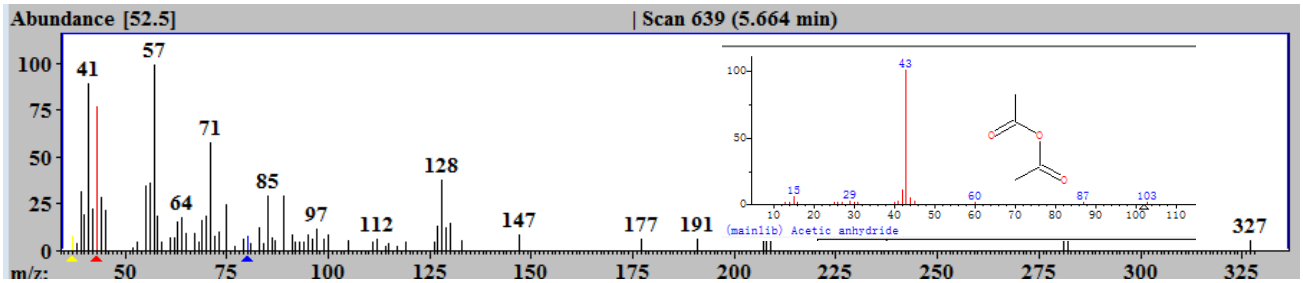
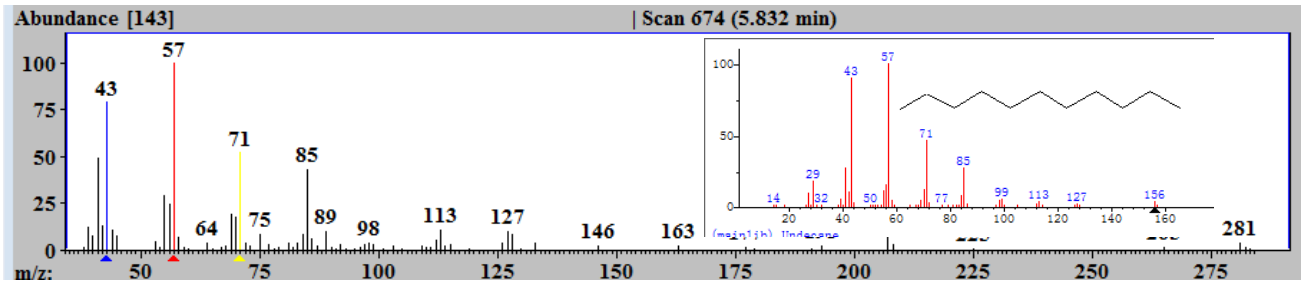


62

63



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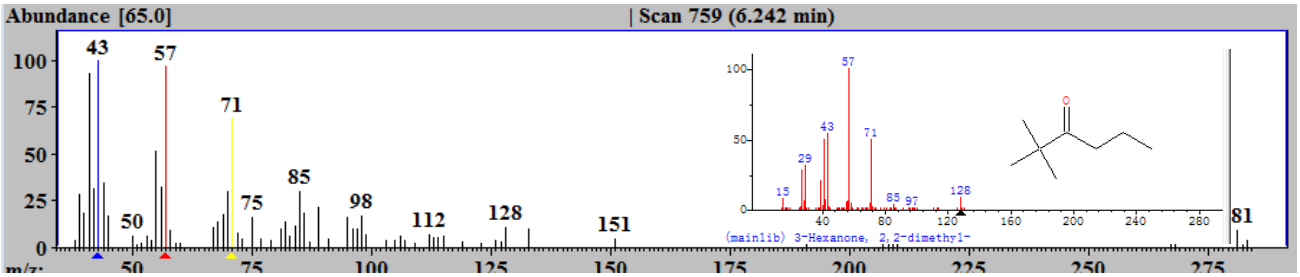

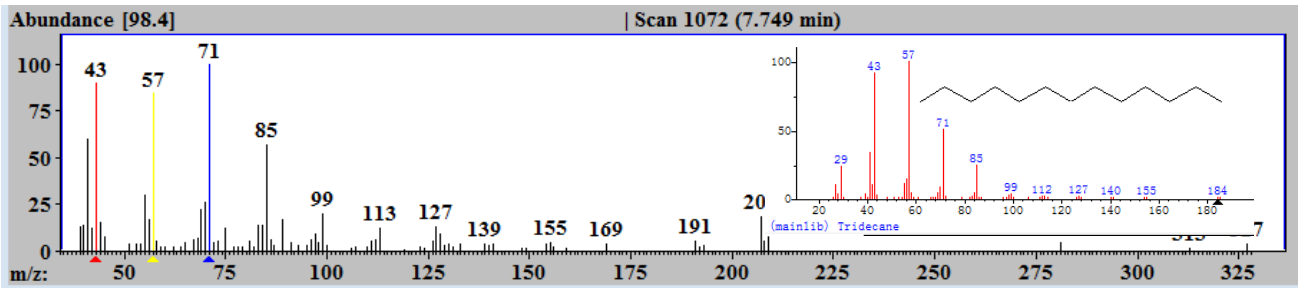

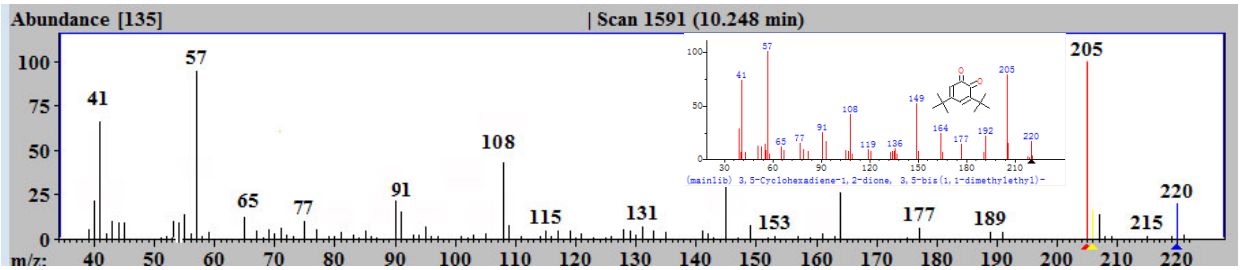

Fig. S5. Mass spectra and proposed structures of intermediates