

Factors that influence degradation of 1-ethyl-3-methylimidazolium
hexafluorophosphate by Fenton oxidation

Huan Cheng^a, Guangshi Chen^a, Yuping Qiu^{a,b,*}, Ben Li^b, Michael K. Stenstrom^b

^a State Key Laboratory of Pollution Control and Resources Reuse, College of Environmental Science and Engineering, Tongji University, Shanghai 200092, P.R. China; ^b Civil and Environmental Engineering Department, University of California, 5732 Boelter Hall, Los Angeles 90095-1593, USA

Supplementary Data

Number of pages: 6

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Fig. 1S. The $\ln k$ vs. $1/T$ in Arrhenius expression. ($[\text{Fe (II)}] = 2 \text{ mmol/L}$, $[\text{H}_2\text{O}_2] = 20 \text{ mmol/L}$, $[\text{IL}]_0 = 2 \text{ mmol/L}$, $\text{pH} = 3$)

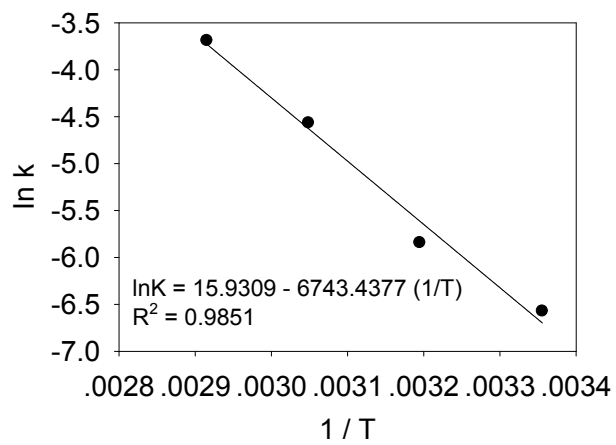
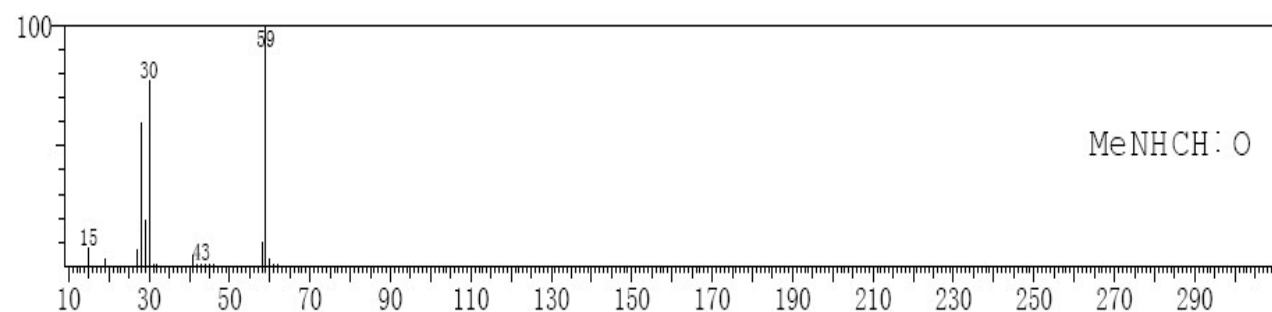
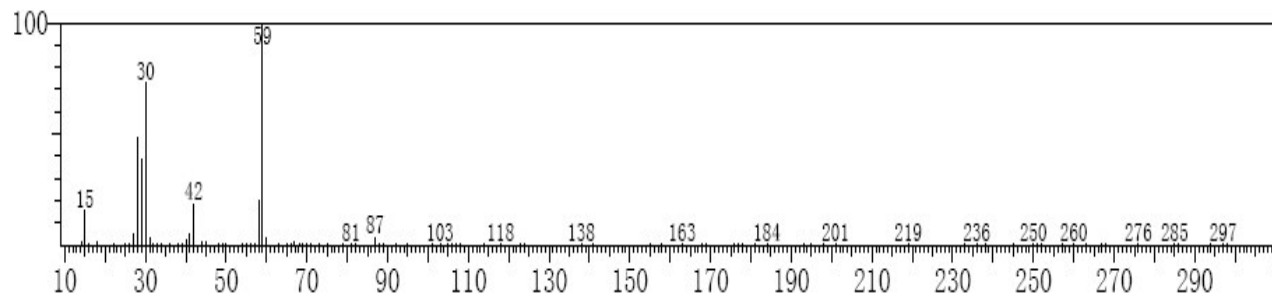
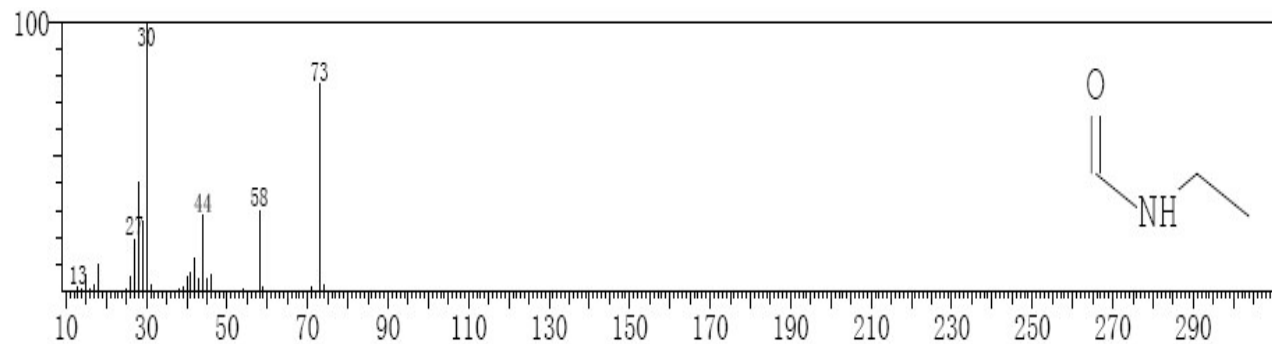
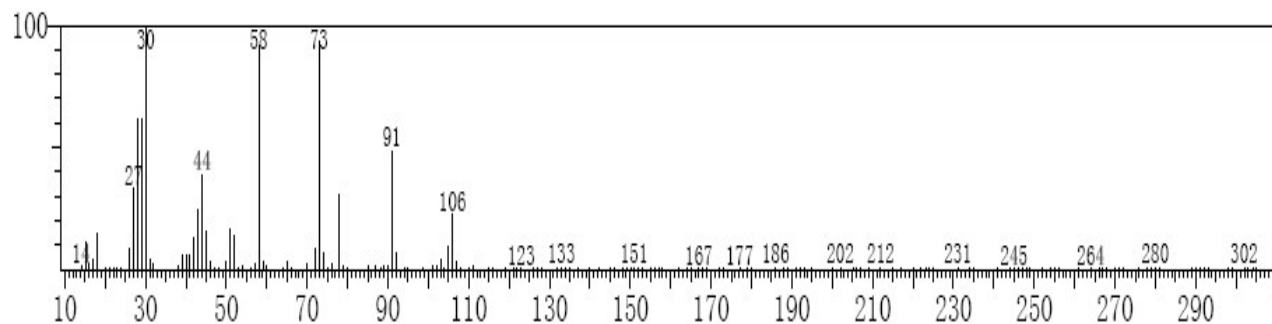


Fig. 2S. The degradation intermediates of [C₂mim][PF₆] at 120 min in the Fenton system and their structures identified by GC-MS.

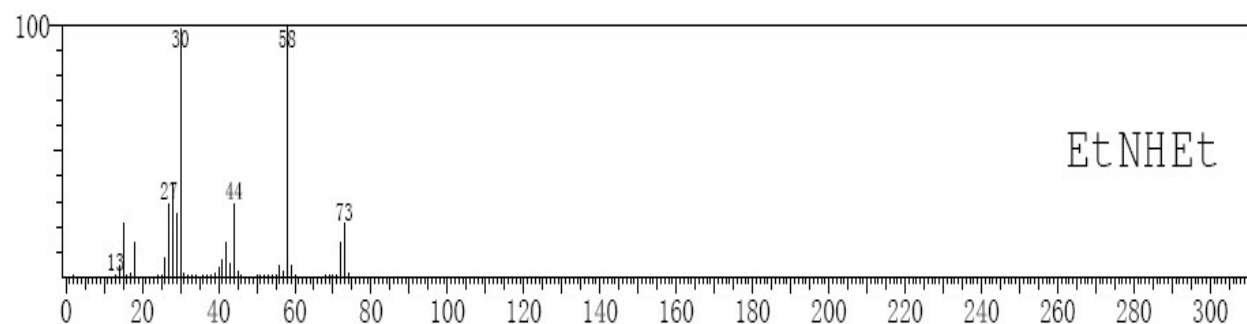
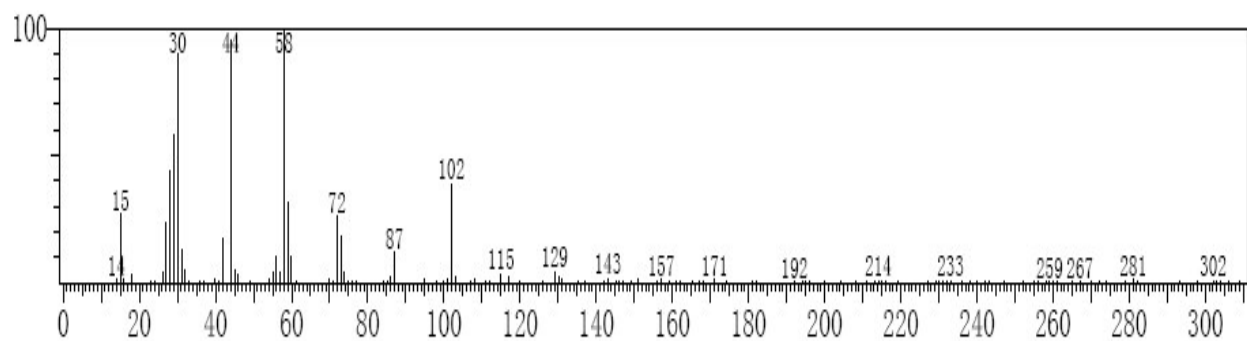
a : N-methylformamide retention time: 5.610



b: N-ethylformamide retention time: 6.525



c: Diethylamine retention time: 12.475



d: 1-ethyl-3-methyl-2,4,5-trioximidazolidine retention time: 12.815

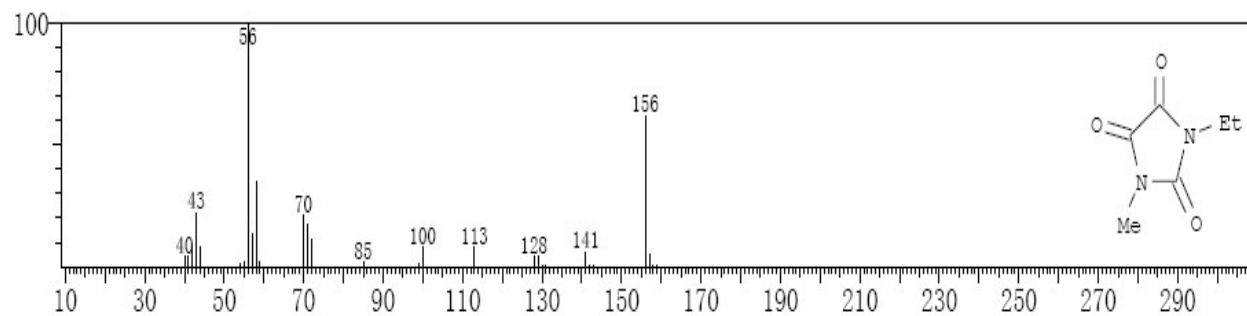
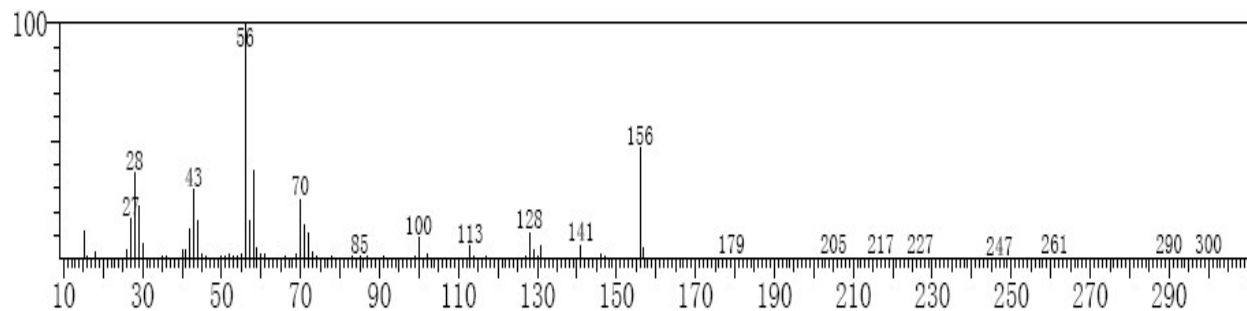


Table 1S. The optimum molar ratio for different types of target substrates

Target substrates	Concentration	Optimum [H ₂ O ₂] / [Fe(II)]	Reference
Formic acid	100 nM	1	(a)
Municipal landfill leachate	COD = 2320-2480 mg/L	3	(b)
Humic acid	1000 mg/L	4	(c)
[C ₂ mim][PF ₆]	2 mM	4	*
Steroid estrogens	200 mg/L	6	(d)
Reactive Blue 19	100 mg/L	10~20	(e)
4-chlorophenol	40 mg/L	20	(f)
C. I. Acid	40 mg/L	59	(g)
Direct Blue 71	100 mg/L	68.6	(h)
p-nitroaniline	0.181 mM	200	(i)
Carpet dyeing wastewater	TOC = 2000 mg/L	156~470	(j)

*the present study

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