

Supplementary Materials

Synthesis of a Novel Catalyst MnO/CNTs for Microwave-Induced Degradation of Tetracycline

Tianming Liu^a, Guobao Yuan¹, Guocheng Lv^{1,*}, Yuxin Li¹, Libing Liao^{1,*}, Siyao Qiu² and Chenghua Sun^{2,3,*}

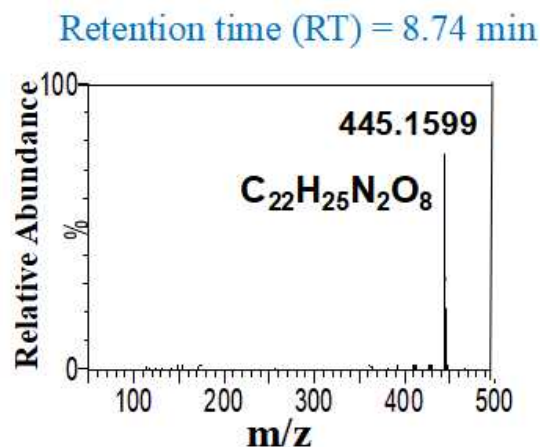
¹ Beijing Key Laboratory of Materials Utilization of Nonmetallic Minerals and Solid Wastes, National Laboratory of Mineral Materials, School of Materials Science and Technology, China University of Geosciences, Beijing 100083, China; tianmingliu@cugb.edu.cn (T.L.), SY1927205@buaa.edu.cn (G.Y.), yuxinli@cugb.edu.cn (Y.L.)

² Department of Chemistry and Biotechnology, and Center for Translational Atomaterials, Swinburne University of Technology, Hawthorn, VIC 3122, Australia; qsy333666@163.com

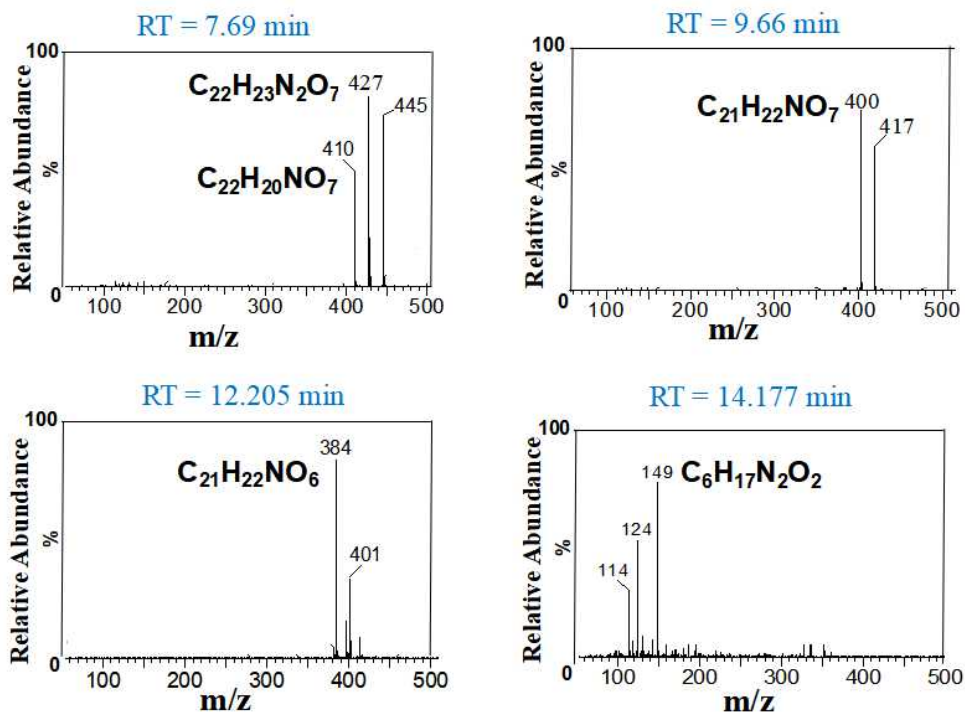
³School of Chemical Engineering and Energy Technology, Dongguan University of Technology, Dongguan 523808, China

*Correspondence: guochenglv@cugb.edu.cn (G.L.), Tel.: +86-10-82322759 (G.L.); clayl@cugb.edu.cn (L.L.), Tel.: +86-10-82321701 (L.L.); chenghuaSun@swin.edu.au (C.S.), Tel.: +61-3-9214-5059 (C.S.)

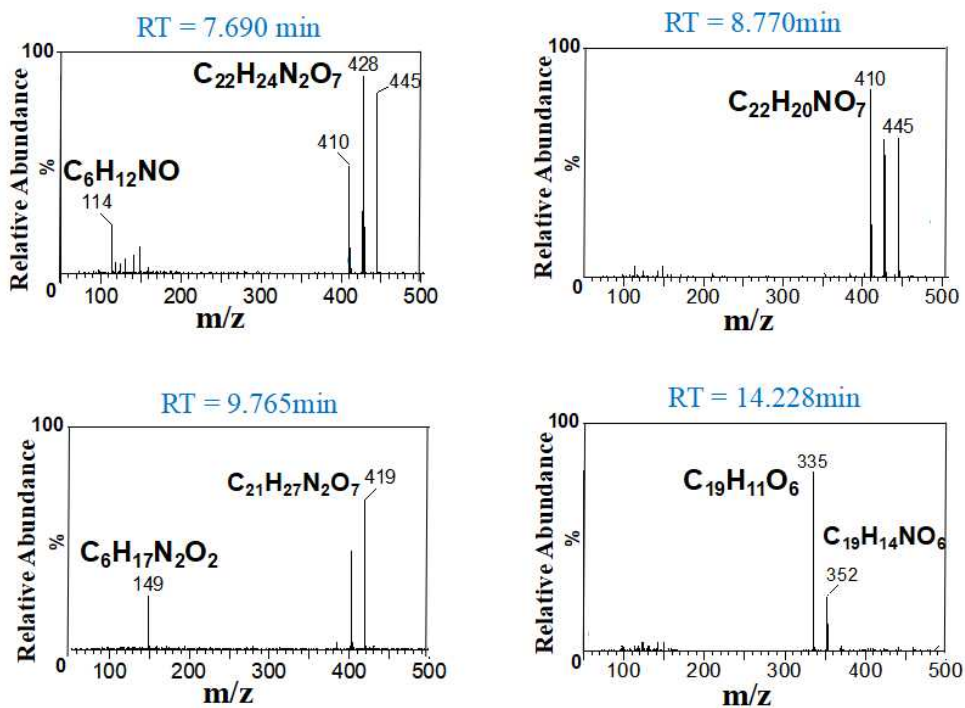
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FigureS1. MS identification of bulk TC solution.



FiguresS2. MS identification of TC solution with 30 min MI treatment, separated by HPLC.



FiguresS3. MS identification of TC solution, isolated by preparative HPLC, with 10 min MI treatment using MnO/CNTs as microwave induced catalyst.

Table S1. Mn ion concentration from ICP-AES results of TC solution and TC solution after degradation under MI with MnO/CNTs as catalyst.

Sample	Detection Values (ppm)			Average (ppm)	standard deviation
	#1	#2	#3		
Original TC solution	0	0	0	0	0
TC solution (After degradation)	0	0	0	0	0

Table S2. Comparison of the degradation effects of different treating methods to remove antibiotics.

Antibiotics	Material	Method	Degradation time (min)	Degradation rate constant	Ref.
TC	MnO/CNTs	Microwave induced oxidation	10	0.0530	This work
CTC	N-doped Ti/TiO ₂	Electrochemical degradation	90	0.0321	(2)
TC	Ti/RuO ₂ -IrO ₂	Anodic oxidation	60	0.0370	(8)
TC	MWCNT/TiO ₂	Photocatalytic degradation	80	0.0310	(10)
CTC	Ti/TiO ₂	Photocatalytic degradation	120	0.0187	(49)
TC	H ₂ O ₂	Photo-electro-Fenton degradation	150	0.0279	(59)

Degradation time: Time spent before removal amount reached 90%.

Table S3. IC results of TC solution and TC solution after degradation under MI with MnO/CNTs as catalyst.

Sample	Test item	Result (mg/L)
TC solution	NO ₂ ⁻	< 0.05
	NO ₃ ⁻	< 0.05
	NH ₄ ⁺	< 0.05
TC solution (After degradation)	NO ₂ ⁻	< 0.05
	NO ₃ ⁻	0.96
	NH ₄ ⁺	< 0.05