Treatment of real benzene dye intermediates wastewater by the Fenton method: characteristics and multi-response optimization

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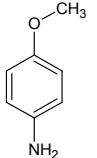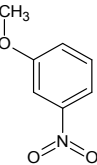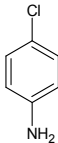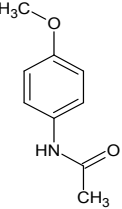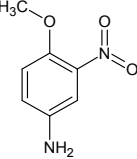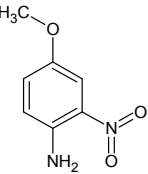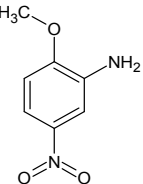
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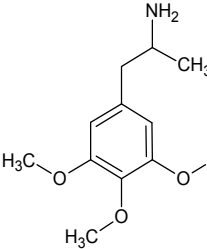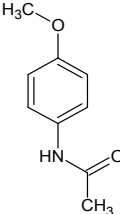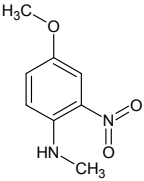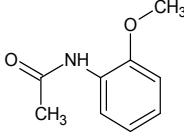E-mail: xueqiang@cugb.edu.cn;   Tel:86-10-82322281

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Supplementary Material 1

The contaminated water samples were obtained from the benzene dye production plant at the Tengger Desert, which is located in the northwest of China in the Ningxia Hui Autonomous Region. The specific component is shown in **Table S1.**

Table S1 Specific components of raw wastewater

Compound name	Molecular formula	Molecular weight	Molecular structure	CAS
4-methoxyaniline	C_7H_9NO	123.15		104-94-9
1-methoxy-3-nitrobenzene	$C_7H_7NO_3$	153.14		555-03-3
4-chloroaniline	C_6H_6ClN	127.57		106-47-8
N-(4-methoxyphenyl)acetamide	$C_9H_{11}NO_2$	165.19		51-66-1
4-methoxy-3-nitroaniline	$C_7H_8N_2O_3$	168.15		577-72-0
4-methoxy-2-nitroaniline	$C_7H_8N_2O_3$	168.15		96-96-8
2-methoxy-5-nitroaniline	$C_7H_8N_2O_3$	168.15		99-59-2

1-(3,4,5-trimethoxyphenyl)propan-2-amine	$C_{12}H_{19}NO_3$	225.2842		4838-96-4
N-(4-methoxyphenyl)acetamide	$C_9H_{11}NO_2$	165.19		51-66-1
2-Methyl-5-(methyloxy)-4-nitroaniline	$C_8H_{10}N_2O_3$	182.18		106579-00-4
N-(2-methoxyphenyl)acetamide	$C_9H_{11}NO_2$	165.19		93-26-5

In the actual operation process, the water samples before and after optimization of Fenton treatment were detected respectively by GC-MS. The results are shown in **Fig. S2** and **Fig. S3.**
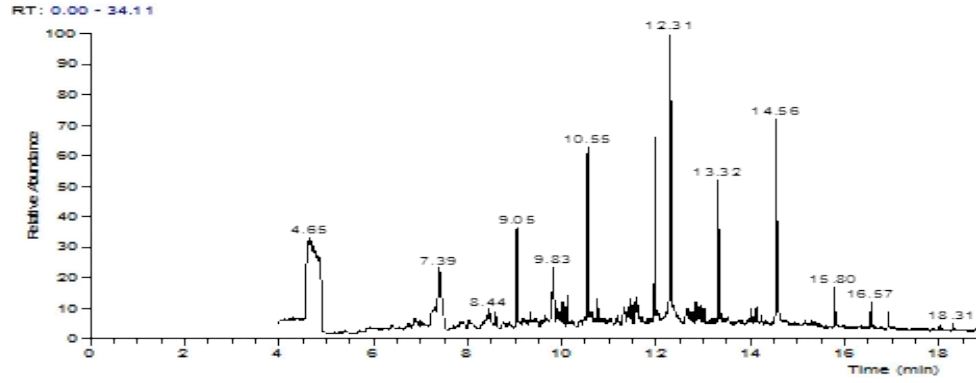

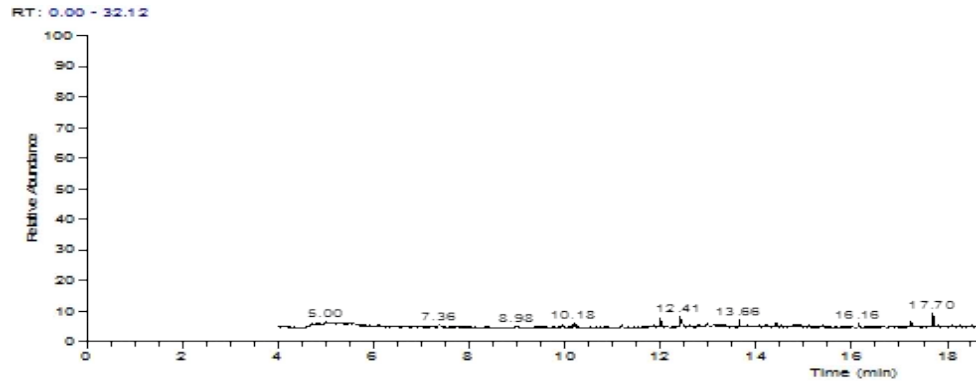**Fig.S2** GC-MS chromatogram of original wastewater

Fig.S3 GC-MS chromatograms of water samples after optimized Fenton treatment