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Supporting Information

Synthesis of $MFeO_3$/SBA–15 (M=La or Bi) for peroxymonosulfate activation towards enhanced photocatalytic activity

Qianqian Zhao, Mingyang Long, Hongmiao Li, Qi Wen, Di Li*

School of Chemistry and Chemical Engineering, Xi'an University of Architecture and Technology, Xi'an, 710055, China

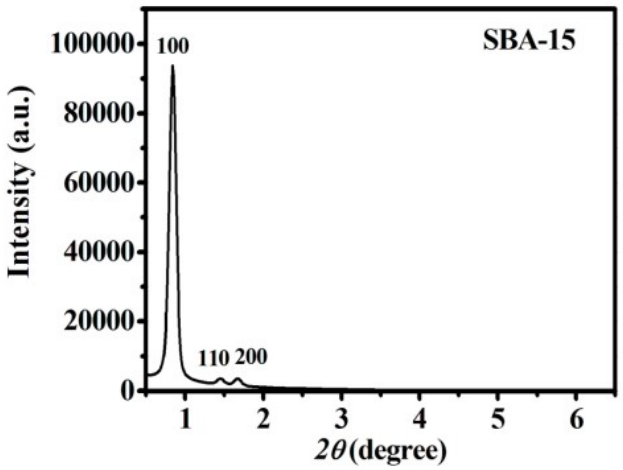

Fig. 1 XRD pattern of SBA–15.

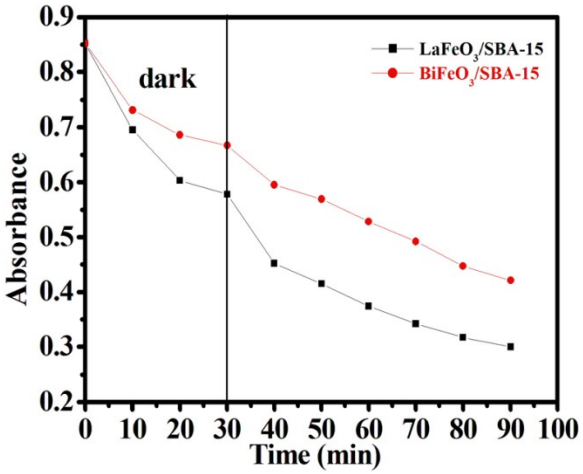

Fig. 2 The photocatalytic degradation of DOX using $MFeO_3$/SBA–15 composites ([photocatalyst] = 0.5 g/L, [DOX] = 40 mg/L).

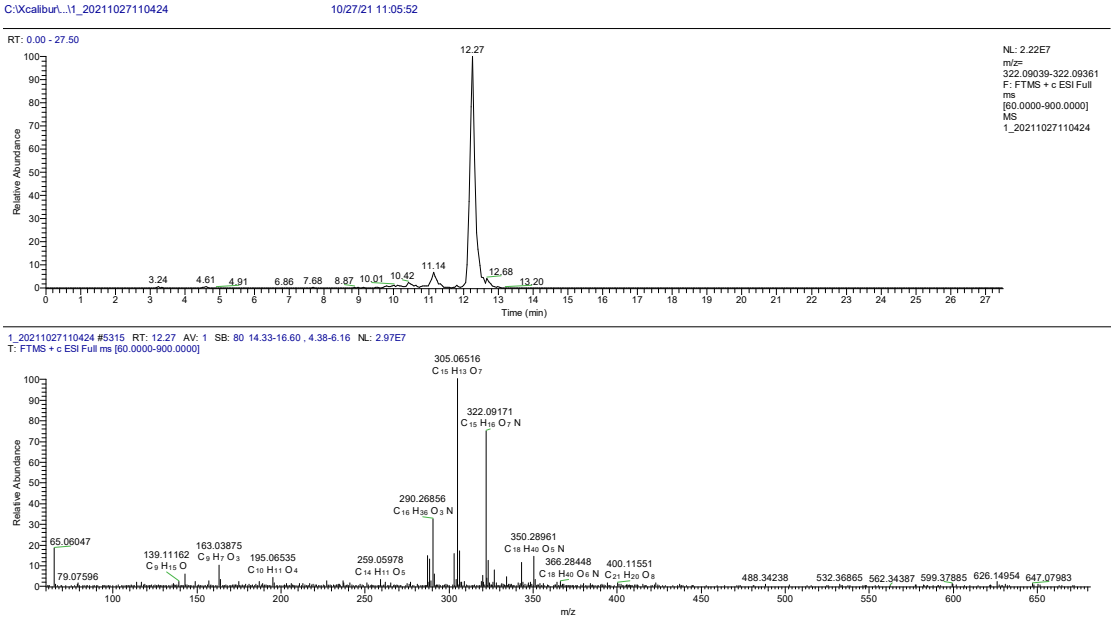

Fig. 3 UPLC–MS results of doxycycline hydrochlorid degradation products [$BiFeO_3$/SBA–15: 0.5 g L^{-1}; PMS: 3 mM; doxycycline hydrochlorid: 40mg/L].

Table 1 The photocatalytic experiment data under different influence factor.

PMS dosage (mmol)	$LaFeO_3$/SBA-15	Removal efficiency	$BiFeO_3$/SBA-15	Removal efficiency
	0.05	75%	0.1	58%
	0.1	79%	0.2	64%
	0.2	78%	0.3	67%
			0.4	66%
Removal efficiency	$LaFeO_3$/SBA-15		$BiFeO_3$/SBA-15	
Concentration (mg/L)				
40	79%		67%	
60	74%		62%	
80	73%		61%	
pH values				
1	44%		45%	
3	57%		52%	
5	79%		67%	
Temperature (°C)				
20	79%		67%	
30	81%		76%	
40	83%		82%	
Natural organic matter and inorganic ions				
control	79%		67%	
HA	75%		63%	
SO_4^{2-}	71%		61%	
NO_3^-	74%		62%	
Radical scavengers				
TBA	75%		53%	
ethanol	59%		35%	