

Polyoxometalate/cellulose nanofibrils aerogels for highly efficient oxidative desulfurization

Rui Song ¹, Xueqin Zhang ², Huihui Wang ¹, and Chuanfu Liu ^{1,*}

1 State Key Laboratory of Pulp and Paper Engineering, South China University of Technology, Guangzhou China, SRsongrui711@163.com (R.S); zhangxueqin0228@163.com (X.Z.); whh@scut.edu.cn (H.W.).

2 College of Light industry and Food Science, Zhongkai University of Agriculture and Engineering, Guangzhou, Guangdong, 510225, China

* Correspondence: chfliu@scut.edu.cn (C.L.); Tel.: +86-20-8711-1735 (C.L.)

Table S1. BET surface areas, pore volumes and pore sizes of the aerogels.

Sample	BET		
	BET surface area (m ² /g)	Average pore size (nm)	Total pore volume (cm ³ /g)
CNF	6.77	5.56	0.01
CNF/PTA50%	14.71	3.65	0.01
A-CNF/PTA50%	7.08	7.97	0.01

Table S2. BJH surface areas, pore sizes of the aerogels.

Sample	BJH of pores			
	Adsorption cumulative surface area (m ² /g)	Desorption cumulative surface area (m ² /g)	Adsorption average pore diameter (nm)	Desorption average pore diameter (nm)
CNF	4.27	8.50	6.90	4.85
CNF/PTA50%	10.22	17.80	4.36	2.97
A-CNF/PTA50%	6.04	7.41	6.15	4.24

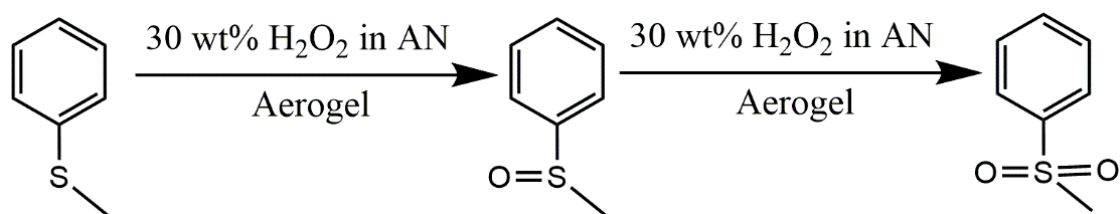


Figure S1. Catalysis process of PTA.

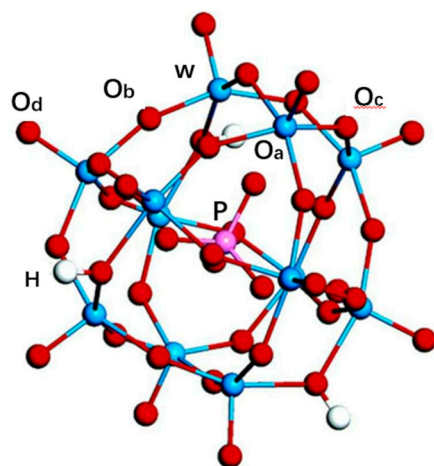


Figure S2. The structure of PTA ($\text{H}_3\text{O}_{40}\text{PW}_{12} \cdot x\text{H}_2\text{O}$).

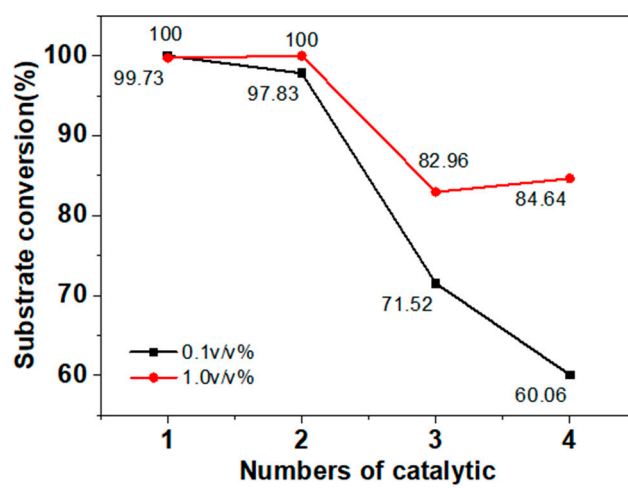


Figure S3. Effect of different APS addition amount on cyclic catalysis.

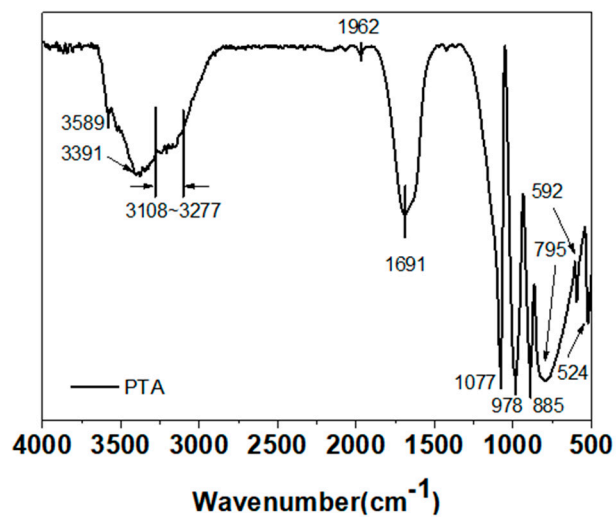


Figure S4. UV spectrum of PTA ($\text{H}_3\text{O}_{40}\text{PW}_{12}\cdot x\text{H}_2\text{O}$).

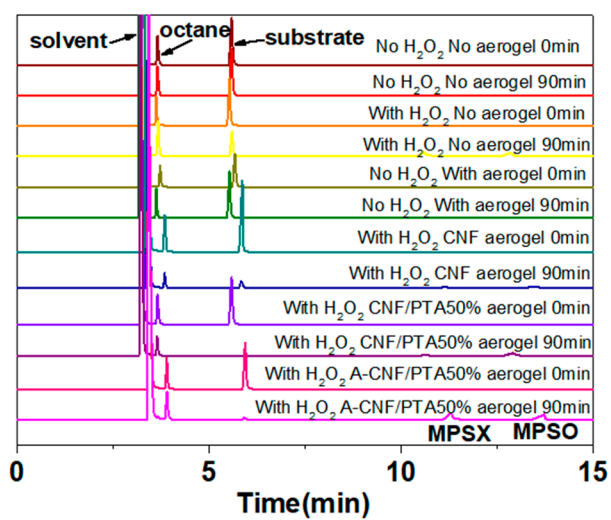


Figure S5. GC chromatograms of different catalytic reactions at 0min and 90min.

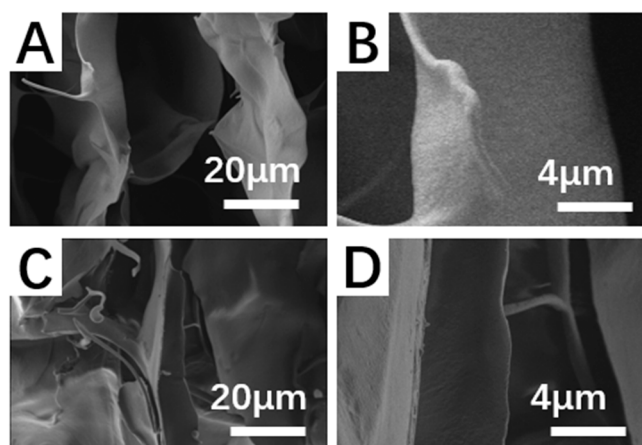


Figure S6. SEM of aerogels before(A,B) and after catalytic reaction(C,D).