Electronic Supplementary Information

A Metal-Organic Gel Based on Silver Salt and 2-Amino-5-Mercapto-1, 3, 4-Thiadiazole with High Antibacterial Activities and Excellent Dye Adsorption Performance

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Contents

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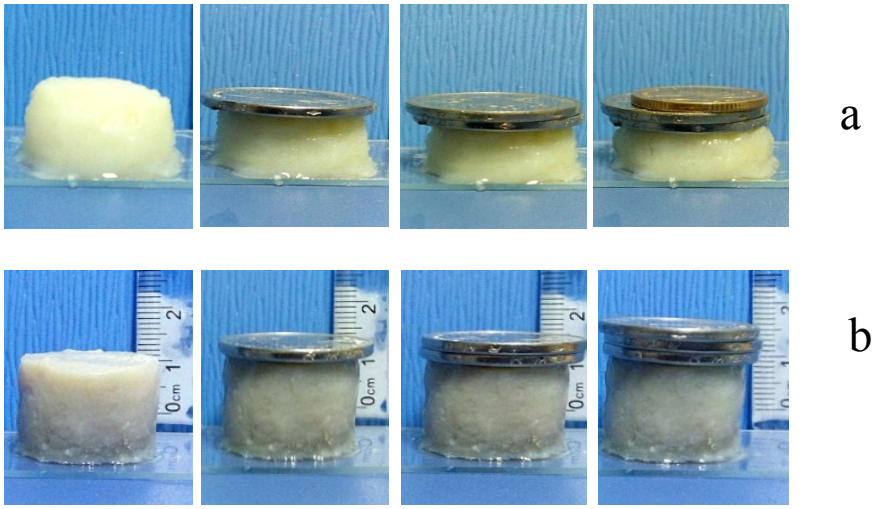
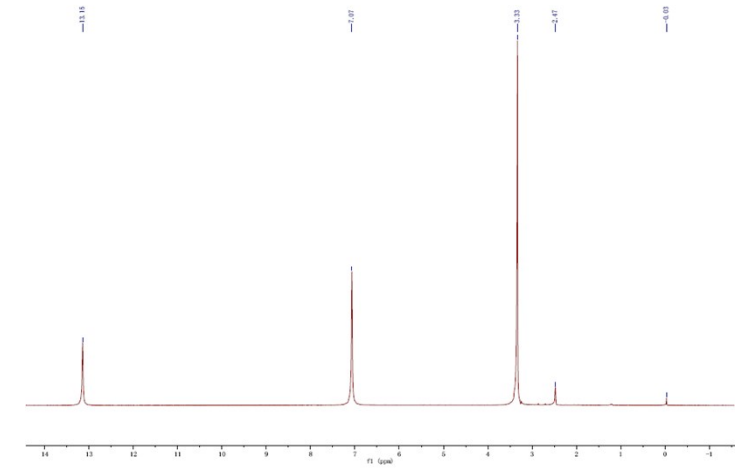
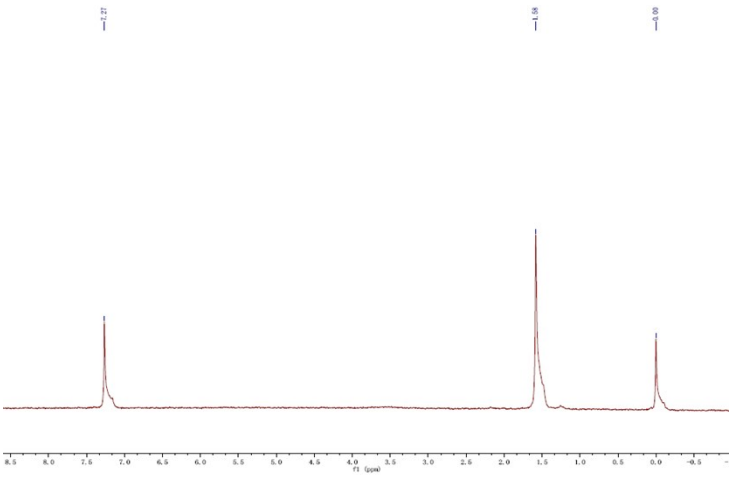


Figure S1 Photographs showing the compression in the height of the gel prepared at different temperature (a) 40ºC (b) 80ºC after carrying coins to compare the mechanical strength of the gel.

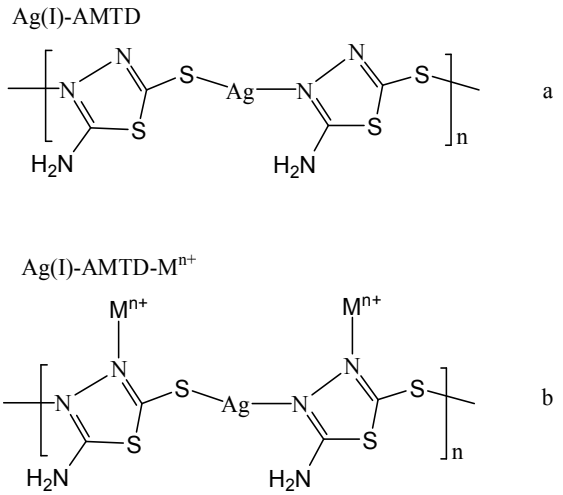


(a)



(b)

Figure S2 Comparative ^{1}H NMR spectra of (a) AMTD and (b) Ag(I)-AMTD-XMOG (solvent: $CDCl_3$)



Scheme S1 Possible structure proposed for (A) Ag(I)-AMTD and (B) Ag(I)-AMTD-M^{n+} coordination polymer

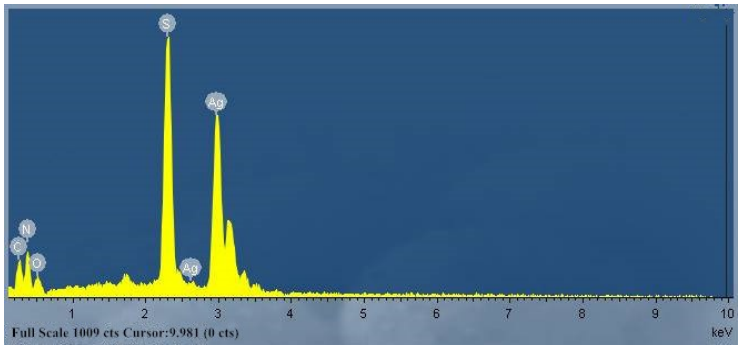


Figure S3 EDX of the Ag(I)-AMTD-XMOG

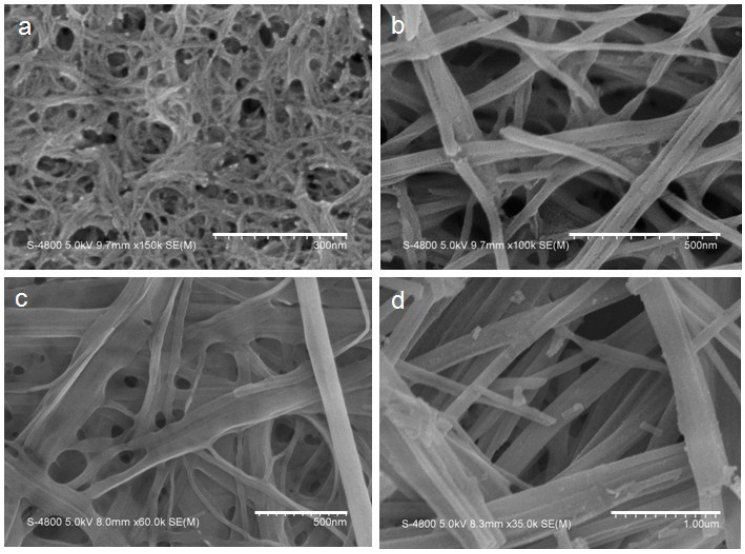


Figure S4 SEM image of the Ag(I)-AMTD-MOG in different mixed solvent (v/v 1:1) (a) CH_3CH_2OH/H_2O (b) C_3H_6O/H_2O (c) CH_3CN/H_2O (d) DMF/H_2O

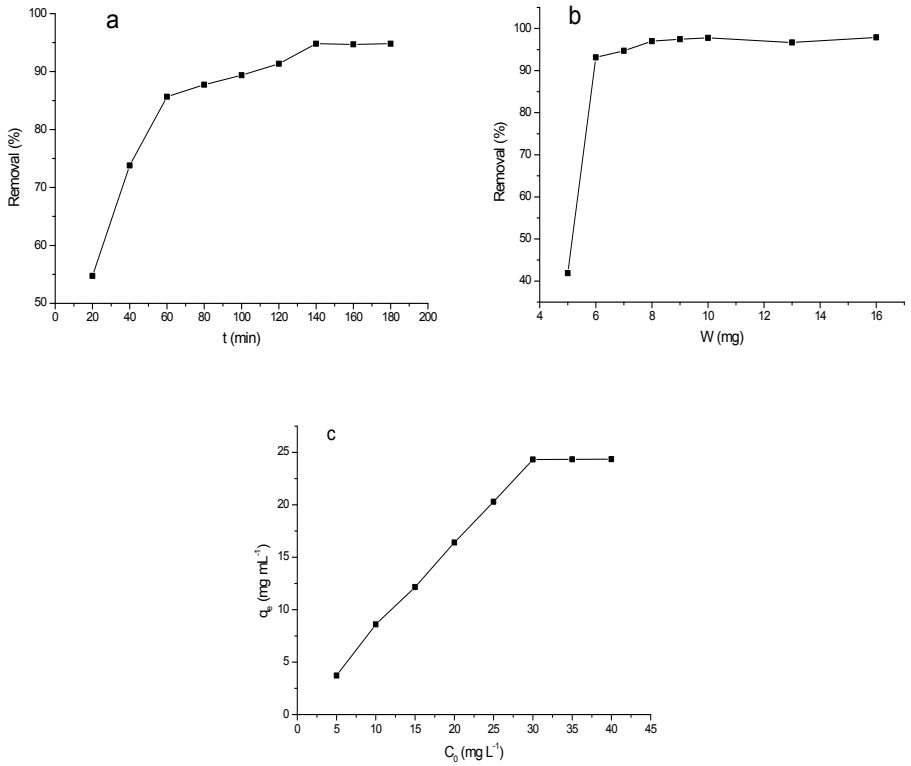


Figure S5 (a) Effect of time on the removal of Acid fuchsin. (Ag(I)-AMTD-XMOG dosage: 0.5 g·L^{-1}; initial dye concentration: 10 mg·L^{-1}; temperature: 298 K). (b) Effect of dosage of Ag(I)-AMTD-XMOG on removal of Acid fuchsin. (c) Effect of initial Acid fuchsin concentration on the removal of dye on Ag(I)-AMTD-XMOG (Initial concentration: 10 mg·L^{-1}; temperature: 298 K; Ag(I)-AMTD-XMOG dosage: 0.5 g·L^{-1}).

Table S1 Inhibition circle diameters of Ag(I)-AMTD-MOG against various microorganisms

Compound/Material	Inhibition circle diameters (mm)		
	E. coli (gm -ve)	*B. subtilis* (gm +ve)	*S. aureus*(gm +ve)
$AgNO_3$	9	8	9
AMTD	2	2	2
$AgNO_3$-AMTD	45	45	90
$AgClO_4$-AMTD	42	43	85
$AgCF_3SO_3$-AMTD	40	40.5	83

Table S2 Minimum inhibitory concentration of Ag(I)-AMTD-MOG in $\mu g \cdot mL^{-1}$

Minimum inhibitory concentration			
Compound/Material	*E. coli* (gm -ve)	*B. subtilis* (gm +ve)	*S. aureus* (gm +ve)
$AgNO_3$	100	150	135
Ag(I)-AMTD-MOG	30	30	20