Supplementary Material

One-Step Fabricationand Characterization of Poly(vinyl alcohol)/SilverHybrid Nanofiber Matby Electrospinning forMultifunctional Applications

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Figure captions

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Figure S2 EDS spectra of the composite mat at (a) square area and (b) microsphere spots

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Figure S5 Effect of coexisting ions on the adsorption efficiency (V=50mL, m=50mg, 25℃）

Figure S6 Regeneration andrecovery of the used mat (V=50mL, m=50mg, C (HCl and HNO_3)=10% (v/v), V(HCl and HNO_3)= 5.0mL, 25℃）

Figure S7　Silver release from the mat during use (V=50mL, m=50mg, 25ºC)

Figure S8 A.pseudo-first-order dynamic equation; B.pseudo-second-order equation （V=50mL, m=50mg, 25ºC）

Table S1 Mass composition of the elements in the mat from EDS analysis

Element	[wt.%] Square region	[wt.%] Micorsphere
C	76.1	81.2
O	18.2	13.4
Ag	5.67	5.43
Total	100	100

Table S2 Mass composition of the elements in the mat from XPS analysis

Element	Content (wt%)
C1s	87.2
O1s	8.36
Ag3d	4.31
Hg4f	0.100

Table S3. Comparison with other reports

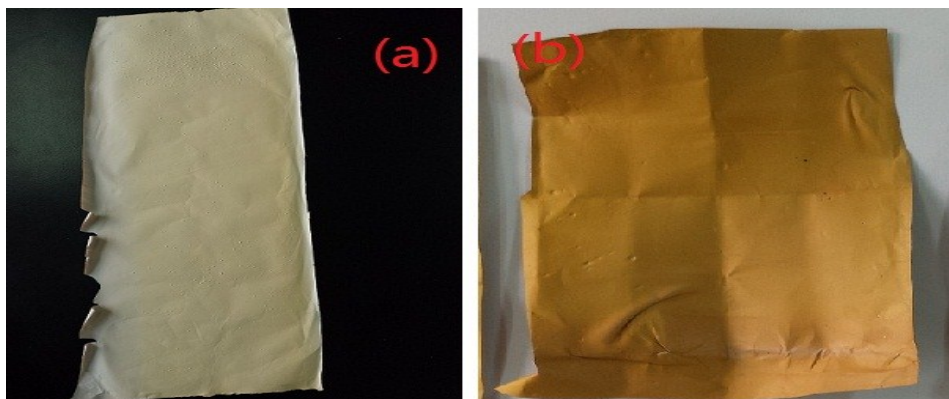| Composition abbreviate	Station	Maximum adsorption capacity	Optimal PH	Reference
Ag-PVA FM	mat	229mg/g	6~8	This study
SWCNT-SH	powders	131 mg/g	9	[S1]
PGCP-COOH	particles	13.73mg/g	6~8	[S2]
PANI-PA/CA	membrane	280.11mg/g	5	[S3]
WS-AC	powders	151.5mg/g	2	[S4]
Cys-Fe3O4 MNPs	particles	380 mg/mol	5	[S5]
T-MSNC	particles	19.79mg/g	no test	[S6]
Na2S2O3/Mn	particles	64 mg/mg	3~7	[S7]
MnO2/CNT	particles	58.8mg/g	7	[S8]
A336-MTBA-PVA/IL	beads	49.89mg/g	5	[S9]

Figure S1 Photo images of the prepared fiber mat (a) before and (b) after thermal treatment
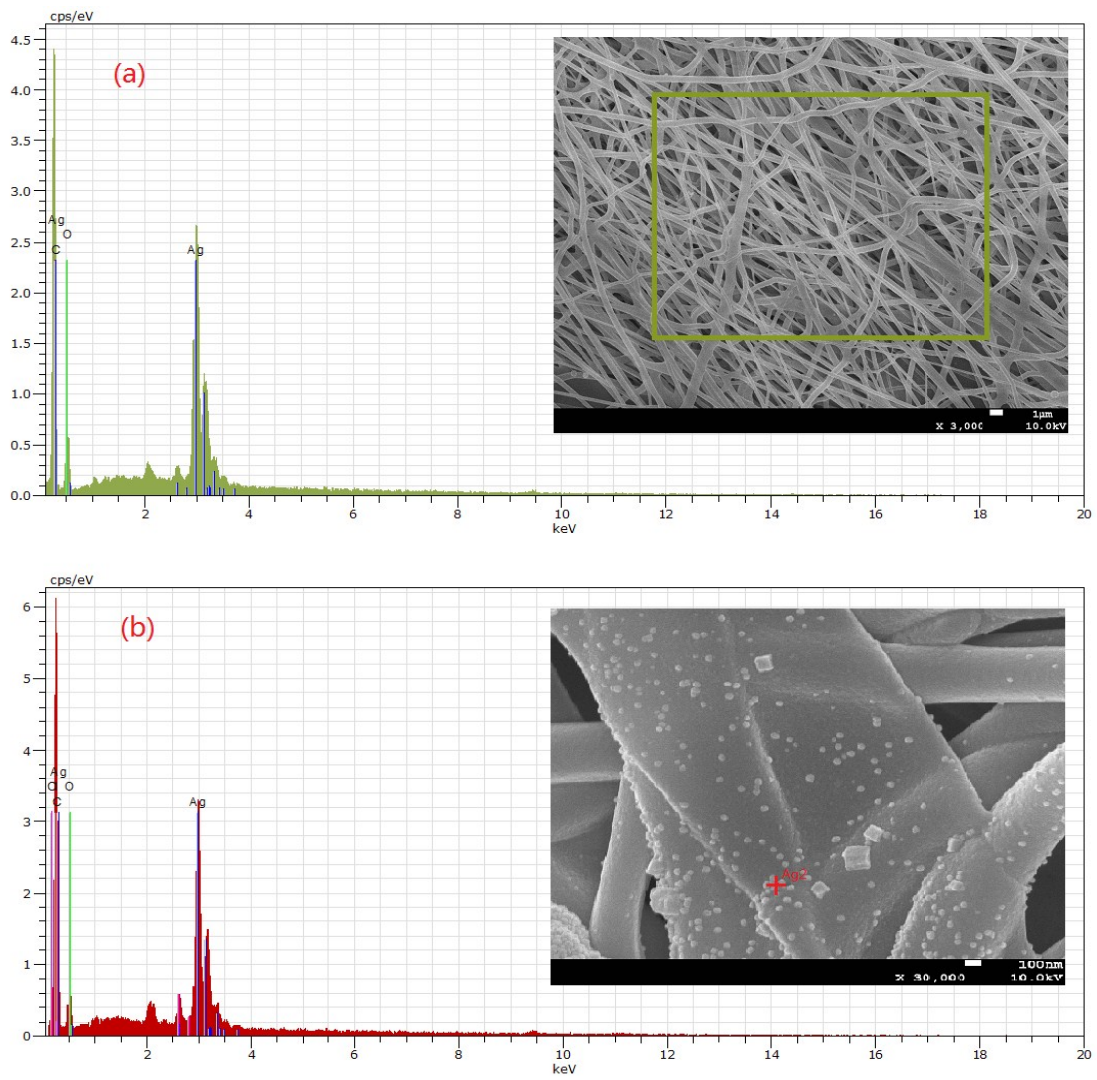
Figure S2 EDS spectra of the composite mat at (a) square area and (b) microsphere spots
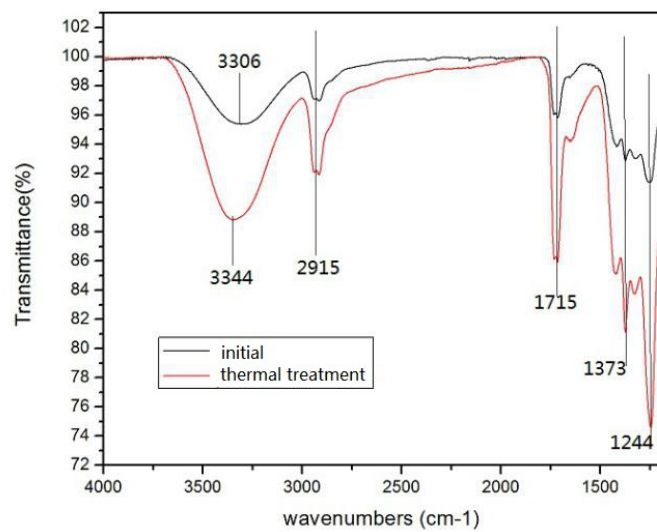
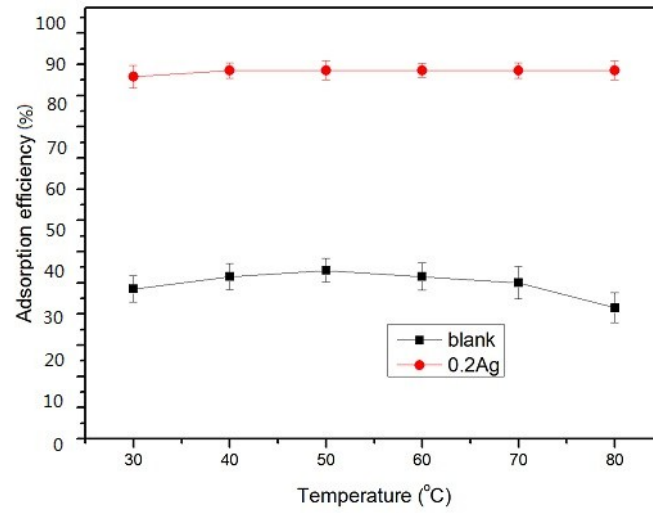Figure S3 ATR-FTIR spectra of initial and thermal treated Ag-PVA mat

Figure S4 Effect of temperature on the adsorption efficiency (C_0=20ng/mL , V=50 mL, m=50mg)
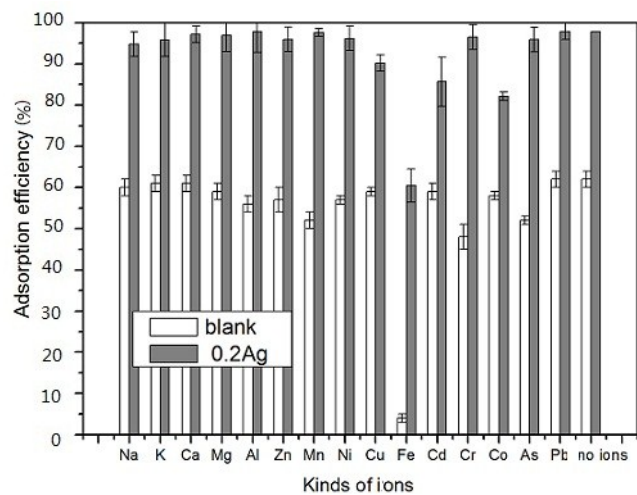
Figure S5 Effect of coexisting ions on the adsorption efficiency (V=50mL, m=50mg, 25℃）

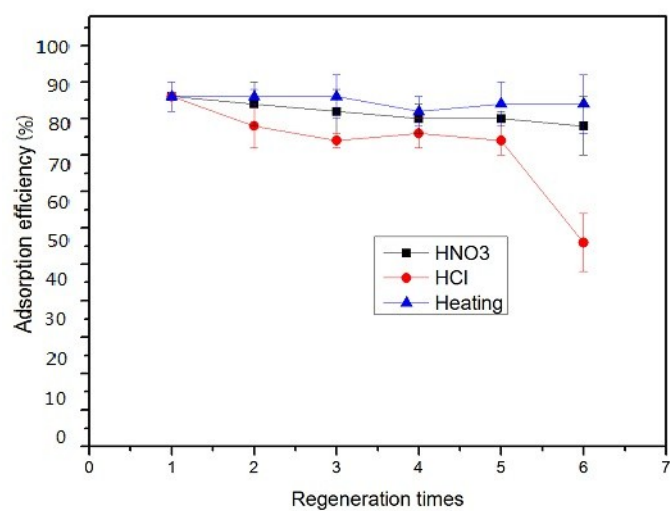Figure S6 Regeneration andrecovery of the used mat (V=50mL, m=50mg, C (HCl and HNO$_3$)=10% (v/v), V(HCl and HNO$_3$)= 5.0mL, 25℃）
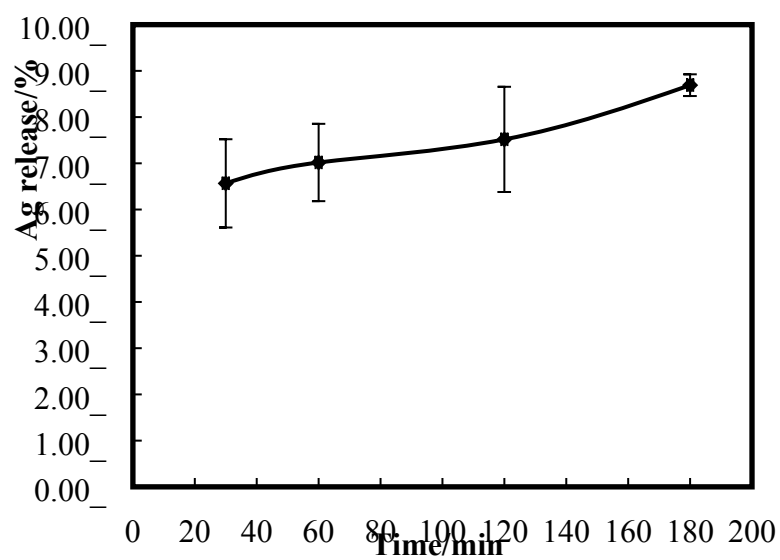
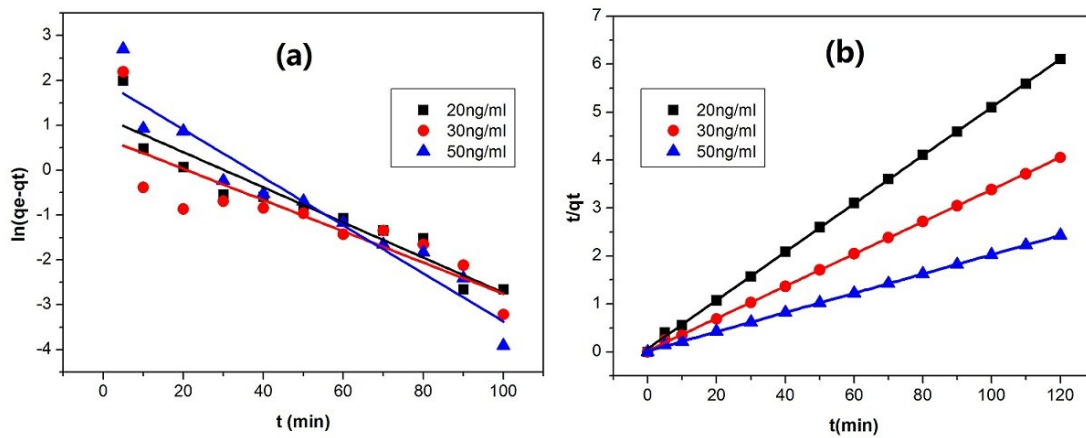Figure S7　Silver release from the mat during use (V=50mL, m=50mg, 25°C)

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