

**G-quadruplex based hydrogels stabilized by cationic polymer as  
efficient adsorbent of picric acid†**

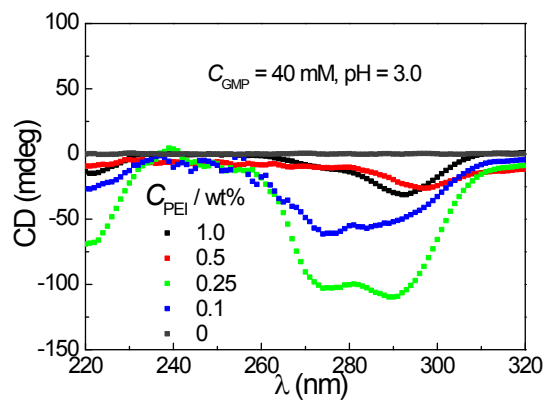
Jin Zhang, Xiaoyang Li, Xiuping Sun, Yihan Liu, Jingcheng Hao, Yebang Tan\* and

Aixin Song\*

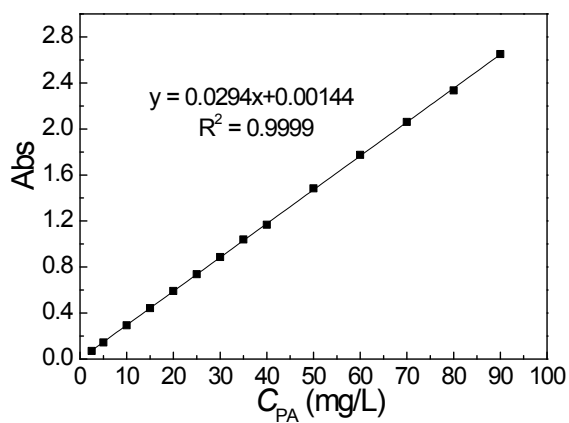
Key Laboratory of Colloids and Interface Chemistry (Shandong University), Ministry  
of Education, Jinan 250100, China

\* To whom correspondence should be addressed.

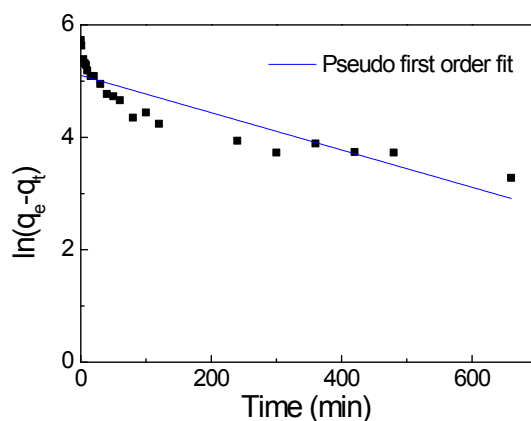
E-mail: songaixin@sdu.edu.cn; Tel: +86-531-88363532; Fax: +86-531-88364750(o)



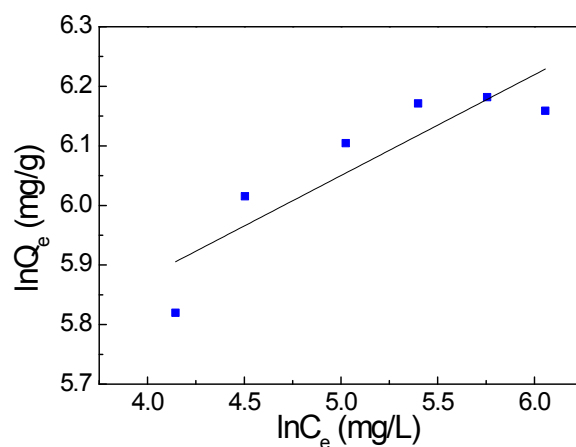
**Fig. S1** CD spectra of 40 mM GMP solution and hydrogels formed by 40 mM GMP with different concentrations of PEI. pH = 3.0.



**Fig. S2** The calibration curve of PA in aqueous solution.



**Fig. S3** Linear plot of pseudo first-order kinetic model with 500 mg·L<sup>-1</sup> initial picric acid 200 mL and 200 mg GMP-PEI xerogel.



**Fig. S4** Linear plot of Freundlich isotherm.

**Table S1** Comparison of adsorption capacity of GMP-PEI xerogels for PA with reported methods. The adsorption capacity was calculated from the Langmuir isotherm model at 25 °C.

	Adsorbents	Sorption capacity ( $\text{mg}\cdot\text{g}^{-1}$ )	Refs. in text
1	GMP-PEI xerogels	507.61	this work
2	Amberlite IRA-67	31.84	[45]
3	Silica decorated azo-azomethine host	68.5	[46]
4	Troger's base-functionalised polymer	81.92	[47]
5	(a) Activated carbon from almond shell	74.0	[48]
	(b) Magnetic activated carbon from almond shell	73.9	[48]
	(c) Calgon carbon	327.8	[48]
6	Polymer–clay nanocomposite (dry/wet)	45.8/45.8	[49]
7	MWCNT-COOH	119.05	[50]
	MWCNT-Chitosan	666.67	[50]