

## SUPPORTING INFORMATION

### **Folate targeting and bovine serum albumin gated mesoporous silica nanoparticles as a redox-responsive carrier for epirubicin release**

Yuan Zhang,<sup>a</sup> Yang Xing,<sup>a</sup> Ming Xian,<sup>b</sup> Shaomin Shuang<sup>a</sup>, Chuan Dong<sup>\*a</sup>

<sup>a</sup> Institute of Environmental Science, and School of Chemistry and Chemical Engineering, Shanxi University,  
Taiyuan 030006, China. E-mail: dc@sxu.edu.cn.

<sup>b</sup> *Department of chemistry, Washington State University, Pullman, WA, 99164, USA.*

\*Corresponding author. Tel.: +86-351-7018613

Table.S1 DLS and LC data of MSN and MSN-FA

polymer	Drug loading Content (%)	Drug loading efficiency (%)
MSN	N/A	N/A
MSN-FA	15.0	60.0

Table.S2 Main structural characteristics of MSN and MSN-FA

	MSN	MSN-FA	EPI/MSN-FA
$S_{BET}$ ( $m^2 \cdot g^{-1}$ )	1103.02	400.68	107.86
$V_p$ ( $cm^3 \cdot g^{-1}$ )	1.22	0.59	0.22
$D_p$ (nm)	2.70	2.60	2.40

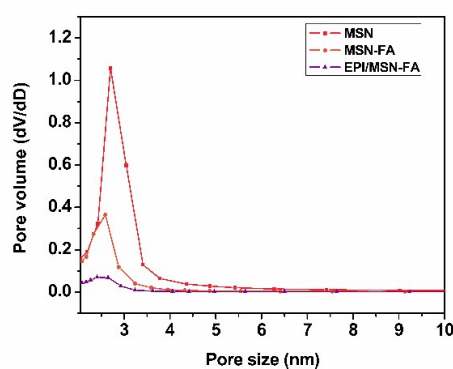
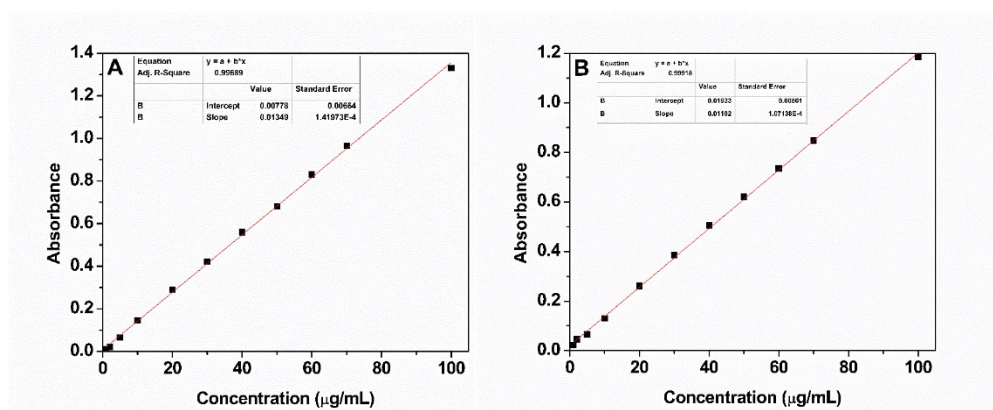


Fig. S1 pore size distribution of MSN, MSN-FA and EPI/MSN-FA

Fig. S2 EPI's standard curves of different pH. (A) pH 7.4,  $Y = 0.01349x + 0.00778$ ,  $R^2 = 0.999$  and (B) pH=5.3,

$$Y = 0.011x + 0.019, R^2 = 0.999.$$

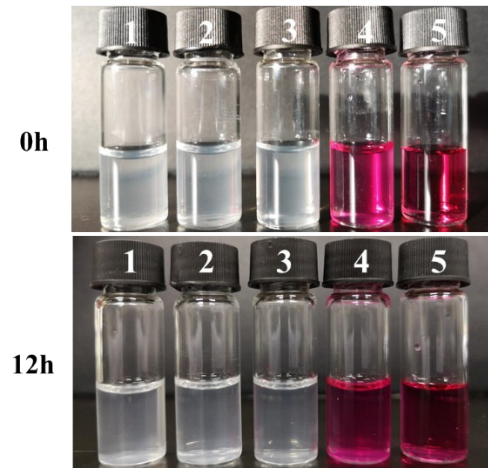


Fig. S3 Images of MSN-FA dispersed in different media (From 1 to 4: distilled water, PBS, SBF, DMEM) with 1 mg/mL MSN-FA, 5: pure DMEM without MSN-FA for 0 and 12 hours.

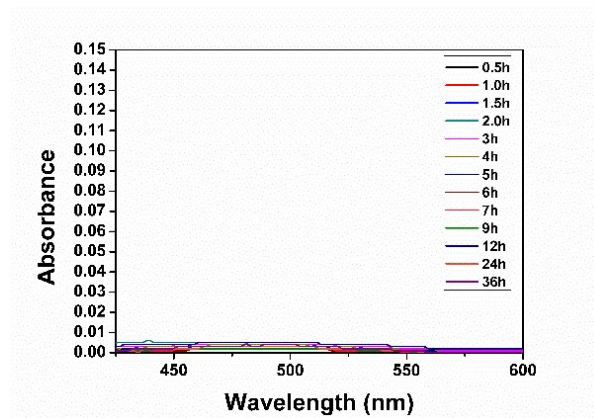


Fig. S4 The UV absorbance about drug release at different time periods from EPI/sSiO<sub>2</sub>-FA.

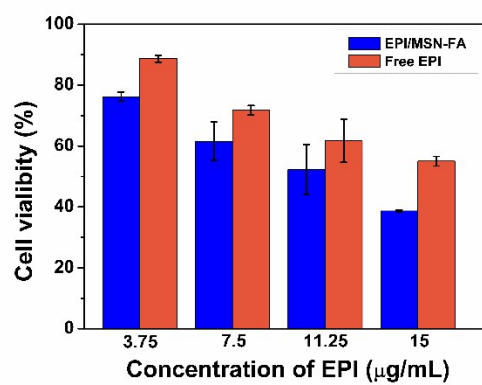


Fig. S5 Viability of HepG2 cells cultured with EPI/MSN-FA in comparison with that of free EPI at the same EPI dose for 24h.