

Supplementary Material

# Magneto-Mechanically Triggered Thick Films for Drug Delivery Micropumps

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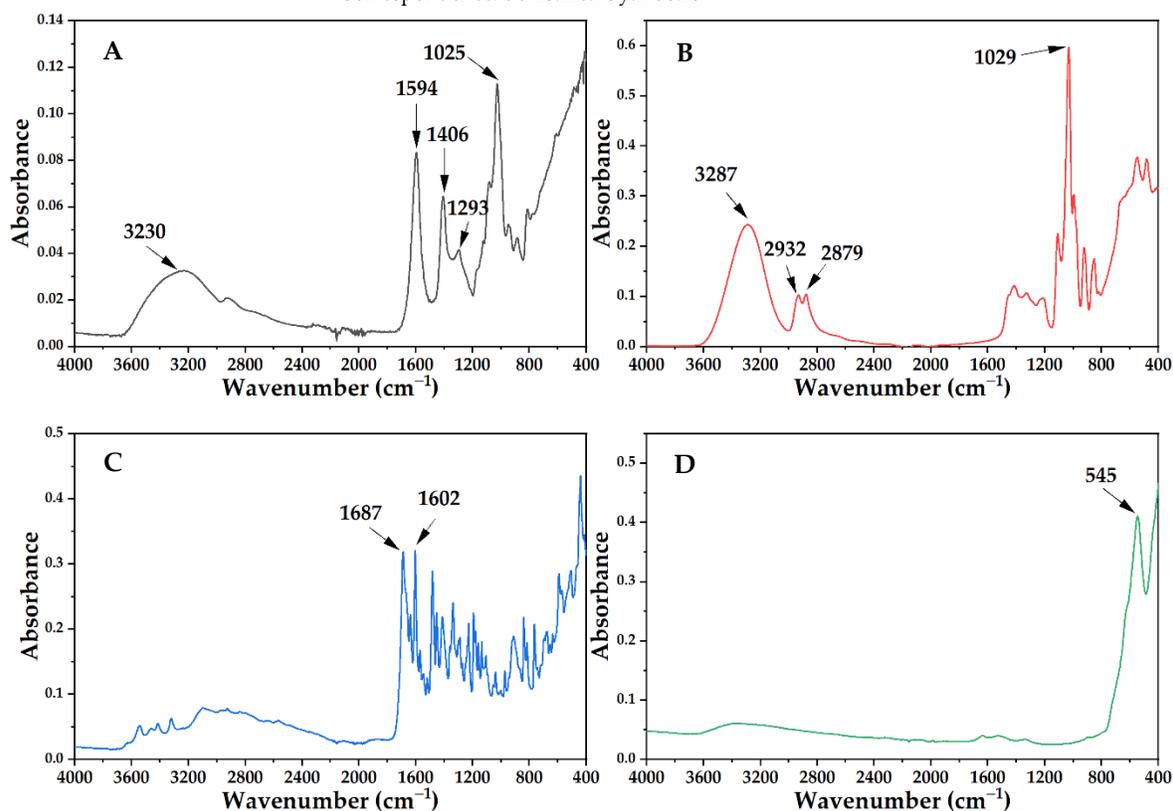
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**Figure S1.** Infrared spectra of raw materials: (A) sodium alginate, (B) glycerol, (C) folic acid, and (D) Fe<sub>3</sub>O<sub>4</sub> nanoparticles.

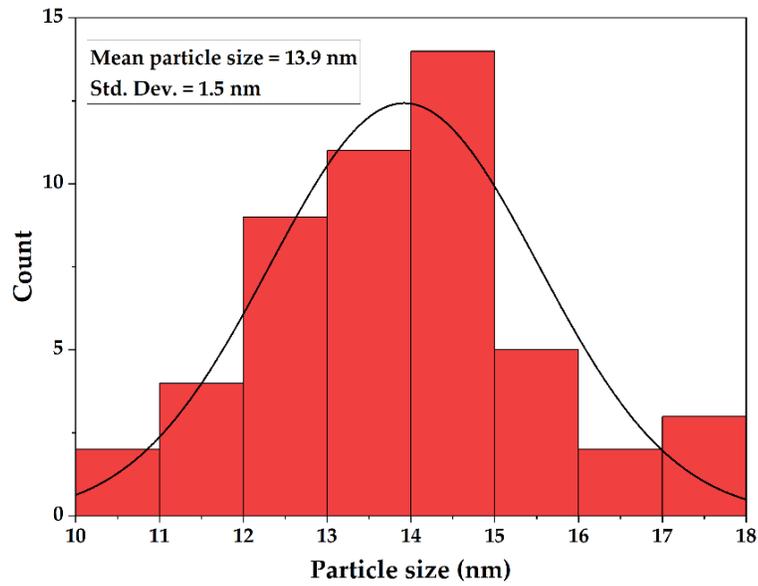


Figure S2. Particle size statistic results for bulk magnetite nanoparticles.

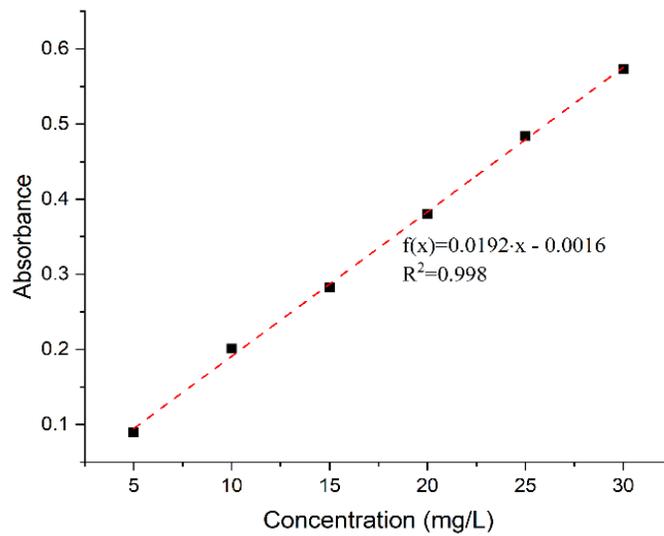


Figure S3. UV-Vis calibration curve of folic acid at 367 nm.

Table S1. Precision study of folic acid at 367 nm.

Sample No.	Absorbance
1	0.283
2	0.283
3	0.281
4	0.281
5	0.282
<b>Mean</b>	<b>0.282</b>
<b>±SD</b>	<b>0.001</b>
<b>%RSD</b>	<b>0.378</b>



Table S2. Accuracy study for a spiked solution of folic acid.

Theoretic concentration ( $\mu\text{g/ml}$ )	Absorbanc e	Calculated Concentration ( $\mu\text{g/ml}$ ) <sup>1</sup>	%Recovery <sup>2</sup>
17.5	0.329	17.2	98.39

<sup>1</sup>Calculated based on the obtained linear equation  $f(x)=0.0192x-0.0016$ .

<sup>2</sup>%Recovery = (Calculated concentration/Theoretic concentration) x 100.