Supplementary Materials

for

A simple approach to prepare fluorescent molecularly imprinted nanoparticles

Fenying Wang,*[a] Dan Wang,[a] Tingting Wang,[b] Yu Jin,[b] Baoping Ling,[c,d] Qianjin Li,*[b] and Jianlin Li [b]

[a] College of Chemistry, Nanchang University, Nanchang, Jiangxi 330031, China.

[b] School of Food Science and Pharmaceutical Engineering, Nanjing Normal University, Nanjing, Jiangsu 210023, China

[c] School of Chemistry and Chemical Engineering, Qufu Normal University, Qufu, Shandong 273165, China.

[d] The High Performance Computing Center, Qufu Normal University, Qufu, Shandong 273165, China

Corresponding authors: Fenying Wang, wangfenying@ncu.edu.cn; Qianjin Li, liqianjinnju@163.com

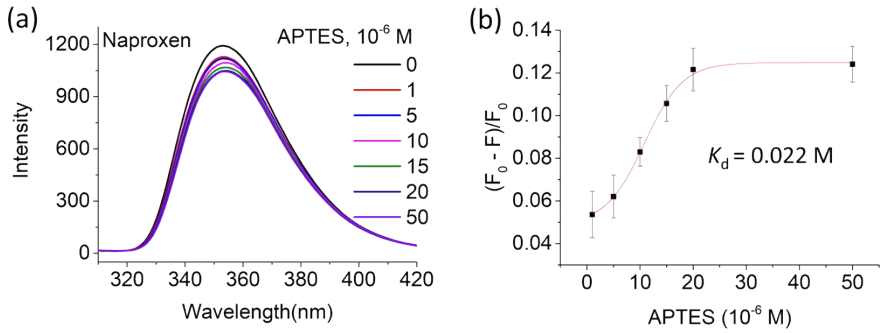

Fig. S1. (a) Fluorescence spectra of naproxen to APTES with different concentrations in ethanol; (b) dose-response behavior of naproxen to APTES in ethanol. Naproxen concentration: 10 μM; excitation/emission wavelengths: 275/353 nm.

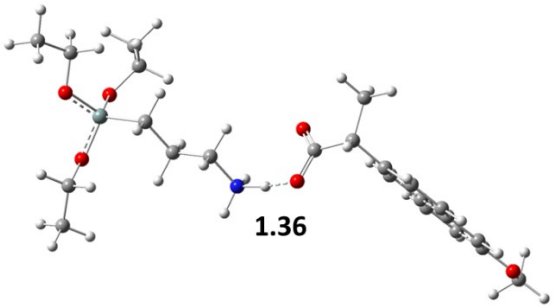

Fig. S2. Interactions between APTES and naproxen calculated by the DFT method, giving a binding energy of -5.6 kcal/mol. The number beside the hydrogen bond means the calculated hydrogen bond length (Å).

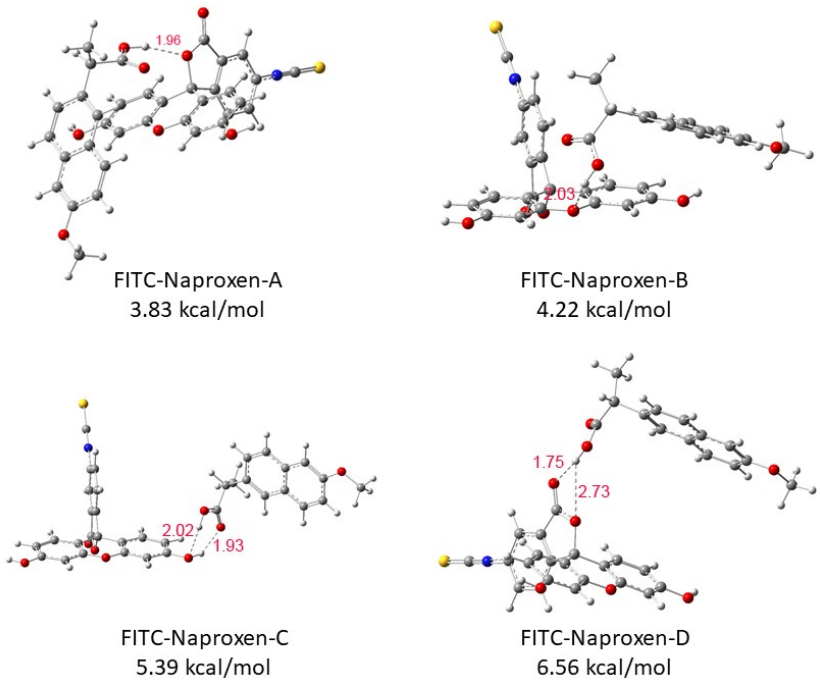

Fig. S3. Interactions between FITC and naproxen calculated by the DFT method. The numbers beside the hydrogen bonds means the calculated hydrogen bond length (Å).

Table S1. Contents of the pre-polymerization mixtures, polymers yield and the utilizations of the FITC-APTES

Polymer	Template/APTES/TEOS, mmol/mmol/mmol	FITC-APTES, mmol	Yield, mg	FITC-APTES utilization, %
FMIP1	0.1/0.3/1.0	0.01	100	87
FMIP2	0.1/0.3/1.0	0.001	100	97
FNIP1	0 / 0.3 / 1.0	0.01	110	62
FNIP2	0 / 0.3 / 1.0	0.001	105	79

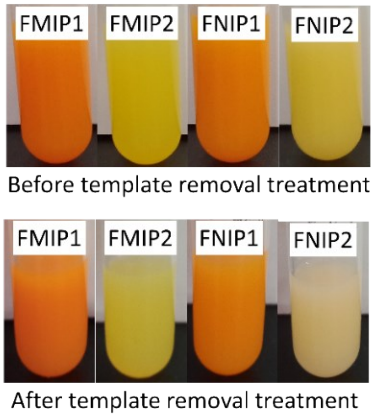

Fig. S4. Visual color of polymers in ethanol before and after template removal treatment.

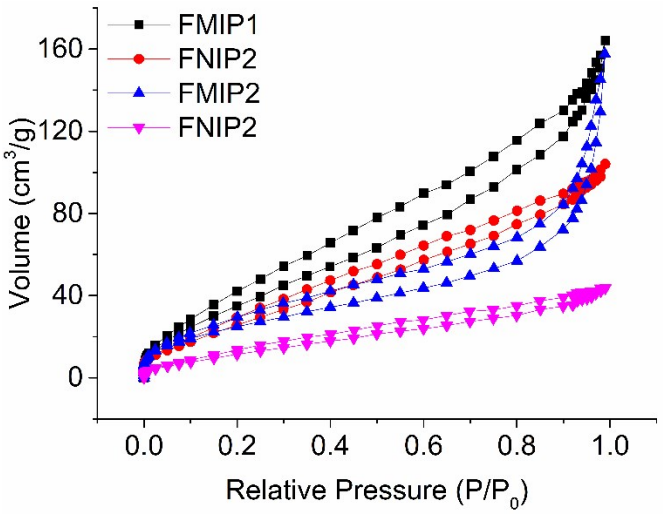

Fig. S5. Adsorption and desorption isotherms of nitrogen on the polymers at 77 K.

Table S2. Surface area, pore volume, and pore size of the polymers measured by the nitrogen adsorption experiment using BET method.

Polymer	Surface area, m^2/g	Pore volume, cm^3/g	Pore size, nm
FMIP1	165.239	0.254	6.149
FNIP1	118.032	0.161	5.457
FMIP2	97.834	0.244	9.967
FNIP2	48.122	0.067	5.606

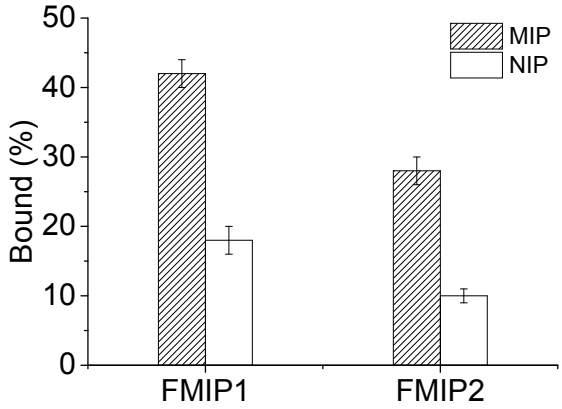

Fig. S6. Uptakes of naproxen by FMIP1 and FMIP2 in the co-solvent of water/ethanol (2/1, v/v). Naproxen concentration: 100 μM; polymer concentration: 1.0 mg/mL.