

Electronic Supporting Information

Template synthesized ultra-thin molecularly imprinted polymers membrane for selective preconcentration of dyes

Lili Lu,^{a,b} Xianyang Yue,^b Fuquan Lin,^{a,c} Feng Huang,^b Bintian Zhang^{*c} and Zhang Lin^{*c,d}

^aCollege of Chemistry, Fuzhou University, Fuzhou, Fujian 350002, China.

^bKey Laboratory of Optoelectronic Materials Chemistry and Physics, Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, Fuzhou, Fujian 350002, China.

^cKey Laboratory of Design and Assembly of Functional Nanostructures, Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, Fuzhou, Fujian 350002, China. E-mail: btzhang@fjirsm.ac.cn; zlin@fjirsm.ac.cn; Tel: +86-591-83705474; Fax: +86-591-83705474

^dSchool of Environment and Energy, South China University of Technology, Guangzhou 510006, China.

Figure S1. EDS spectra of MIPs and NIPs.

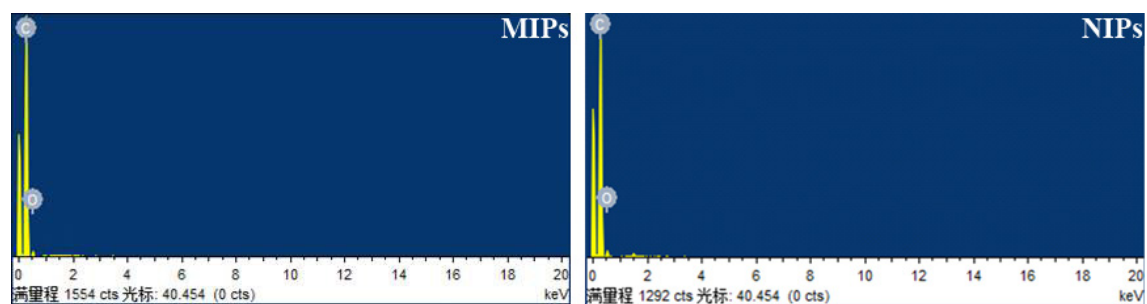


Figure S2. AFM image and data of membrane thickness for MIPs.

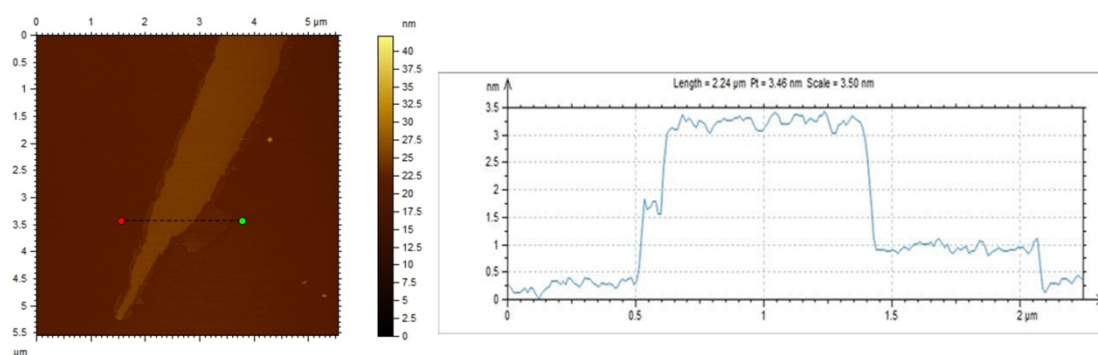


Figure S3. Nitrogen (77K) and Argon (87K) adsorption-desorption isotherms and the corresponding pore size distributions (the inset) calculated by the BJH method for MIPs.

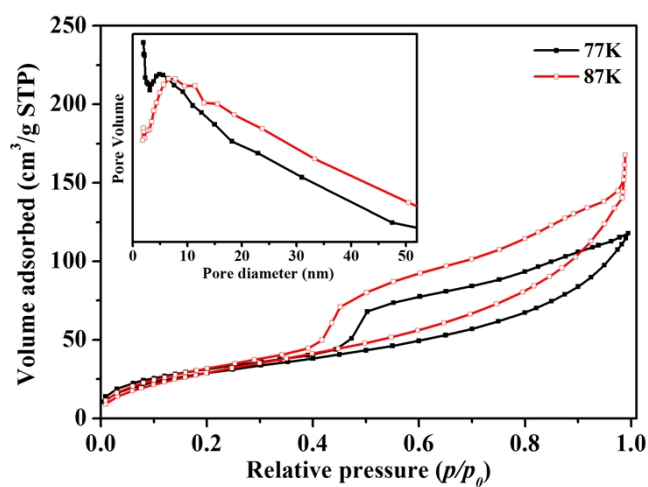


Table S1. Isotherm Model Constants for MIPs and NIPs

| Isotherm Model | Constant ^a | MIPs | NIPs |
|----------------|-----------------------|--------|--------|
| Langmuir | Q_{\max} | 100.1 | 60.4 |
| | b | 0.210 | 0.202 |
| | R^2 | 0.9998 | 0.9997 |
| Freundlich | logk | 1.2245 | 1.1084 |
| | n | 2.57 | 3.04 |
| | R^2 | 0.9061 | 0.9153 |

^a Q_e is the adsorption amount at equilibrium (mg/g), C_e is the equilibrium concentration (mg/L), Q_{\max} is the maximum amount (mg/g) and b is the adsorption equilibrium constant (L/mg), k is the Freundlich constant (mg/g), and 1/n is the heterogeneity factor.