

## Supporting Information

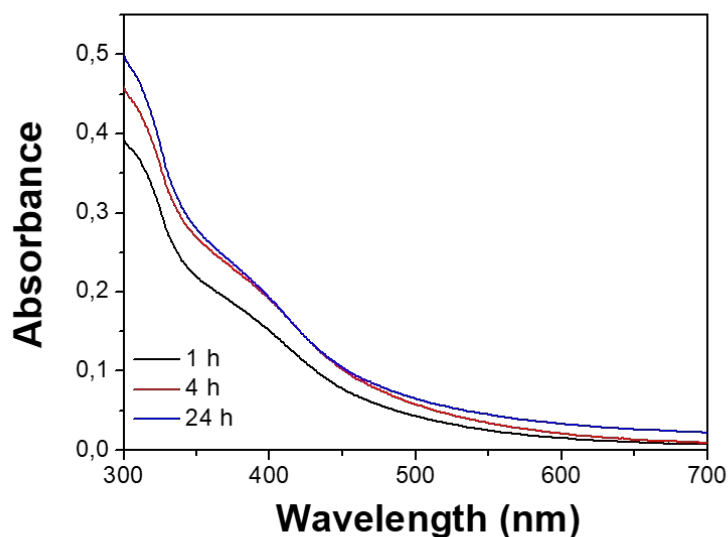
# Polydopamine nanoparticles coated polysulfone porous granules as adsorbents for water remediation

*Tamara Posati,<sup>\*†</sup> Morena Nocchetti,<sup>‡</sup> Alessandro Kovtun,<sup>†</sup> Anna Donnadio,<sup>‡</sup> Massimo Zambianchi,<sup>†</sup> Annalisa Aluigi,<sup>†</sup> Massimo L. Capobianco,<sup>†</sup> Franco Corticelli,<sup>§</sup> Vincenzo Palermo,<sup>†‡</sup> Giampiero Ruani,<sup>||</sup> Roberto Zamboni,<sup>†</sup> Maria Luisa Navacchia,<sup>\*†</sup> Manuela Melucci<sup>\*\*†</sup>*

## Contents

- 1. Polydopamine release test**
- 2. Control membranes synthesis**
- 3. Physicochemical properties of RhB, OFLOX and BP4**
- 4. Removal Improvement of PSPD-HPG over PS-HPG**

## 1. Polydopamine release test



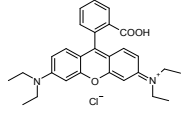
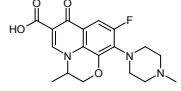
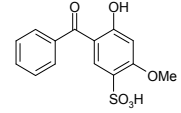
**Figure S1.** UV-vis absorbance spectra of PSPD-HPG washing waters at different times.

## 2. 2. Control membranes synthesis

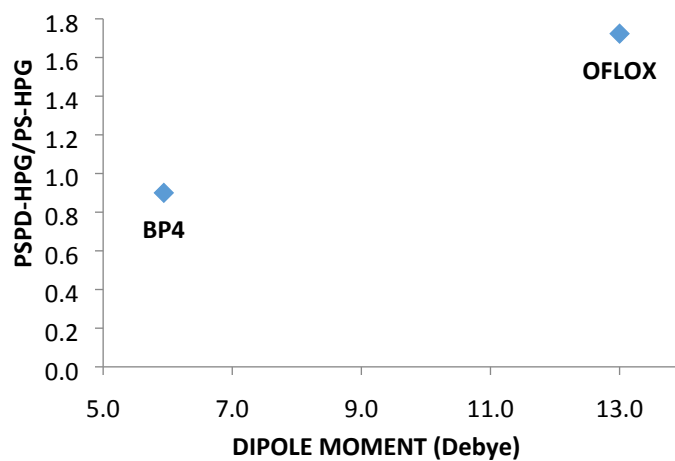
Polysulfone membrane and PD coated polysulfone membrane were prepared by phase inversion as reported in ref. 31. (M. Zambianchi, M. Durso, A. Liscio, E. Treossi, C. Bettini, M.L. Capobianco, A. Aluigi, A. Kovtun, G. Ruani, F. Corticelli, M. Brucale, V. Palermo, M.L. Navacchia, M. Melucci, Chem. Eng. J., 2017, 326, 130). In the case of PD coated membrane we performed in situ growth of PD NPs by using the same protocol reported for the synthesis of PSPD-HPG in the main text.



**Figure S2.** Images of PD doped PS membrane (left) and PS only (right) membrane.

Compound	Structure	MW	Log K <sub>ow</sub>	Dipole moment	Solubility (mg/L)
Rhodamine B (RhB)		479.02	-1.1	25.0	34000
Ofloxacin (OFLOX)		361.37	-0.4	13.0	28300
Benzophenone-4 (BP4)		308.31	0.4	5.9	20000

**Table S1.** Physicochemical properties of the selected EOCs.



**Figure S3.** Improvement efficiency of PSPD-HPG over PS-HPG for OFLOX and BP4 as a function of the dipole moment. Improvement% = (REMOVAL PSPD-HPG - REMOVAL PS-HPG)/REMOVAL PS-HPG \*100