Supporting Information for

Polymeric membrane potentiometric sensors based on template-removal-free imprinted receptors for determination of antibiotics

Xinyao Wang [a, b], Guohua Cui [a], Rongning Liang [a, *] and Wei Qin [a]

[a] CAS Key Laboratory of Coastal Environmental Processes and Ecological Remediation, Yantai Institute of Coastal Zone Research (YIC), Chinese Academy of Sciences (CAS); Shandong Key Laboratory of Coastal Environmental Processes, YICCAS, Yantai Shandong 264003, P. R. China

[b] University of Chinese Academy of Sciences, Beijing, 100049, P. R. China

* Corresponding author. Fax: +86-535-2109000

E-mail address: rnliang@yic.ac.cn

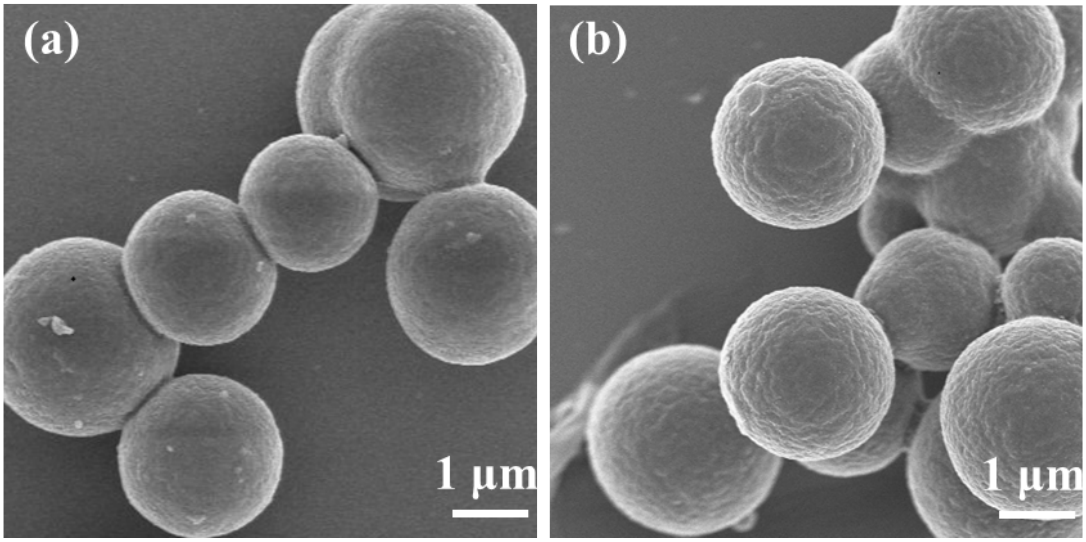

Fig. S1. SEM images of the traditional MIP beads with template removals by (a) stirred filtration extraction and (b) Soxhlet extraction.

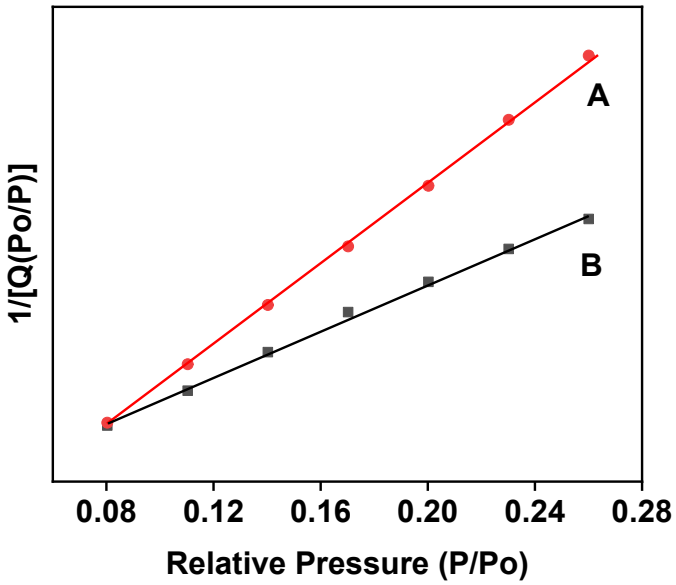

Fig. S2. BET surface area plots of the MIPs with template removal by (A) stirred filtration extraction and (B) Soxhlet extraction.

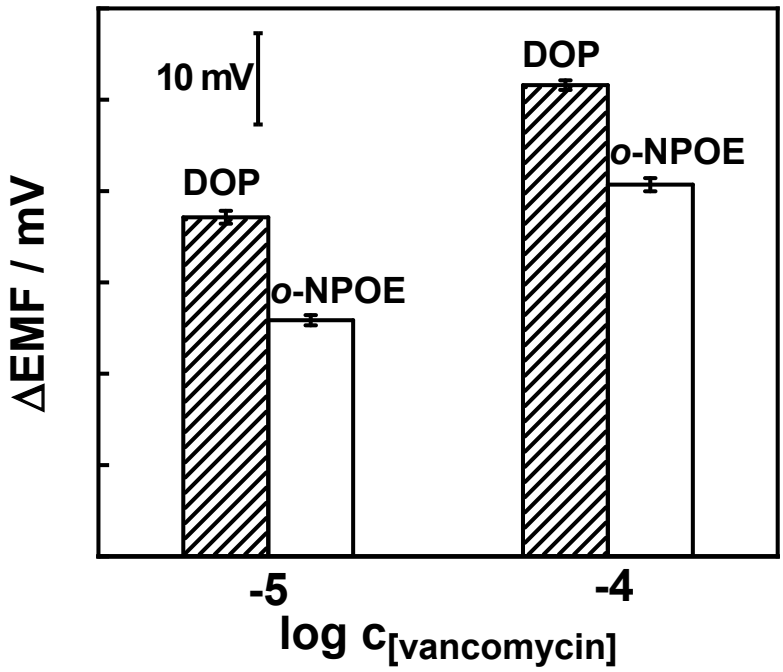

Fig. S3. Effect of the plasticizer on the potential response.

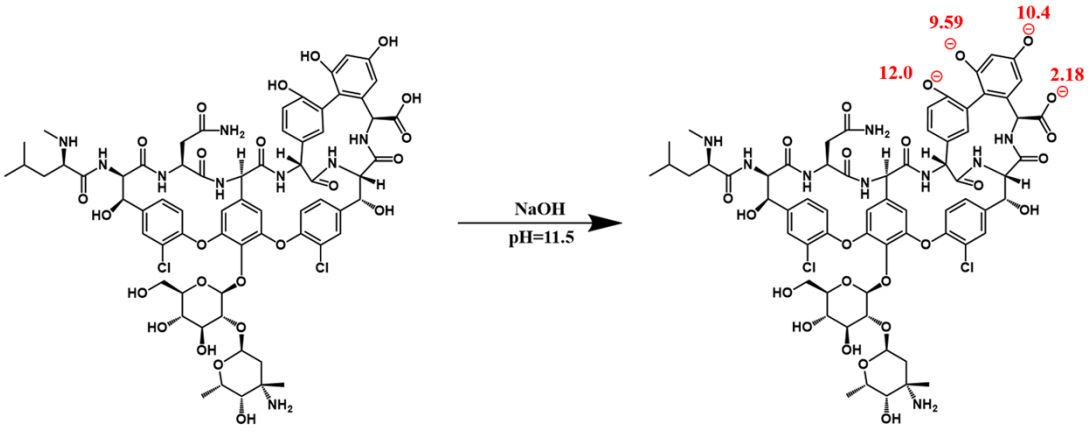

Fig. S4. Possible existing form of vancomycin in NaOH solution of pH 12.0.

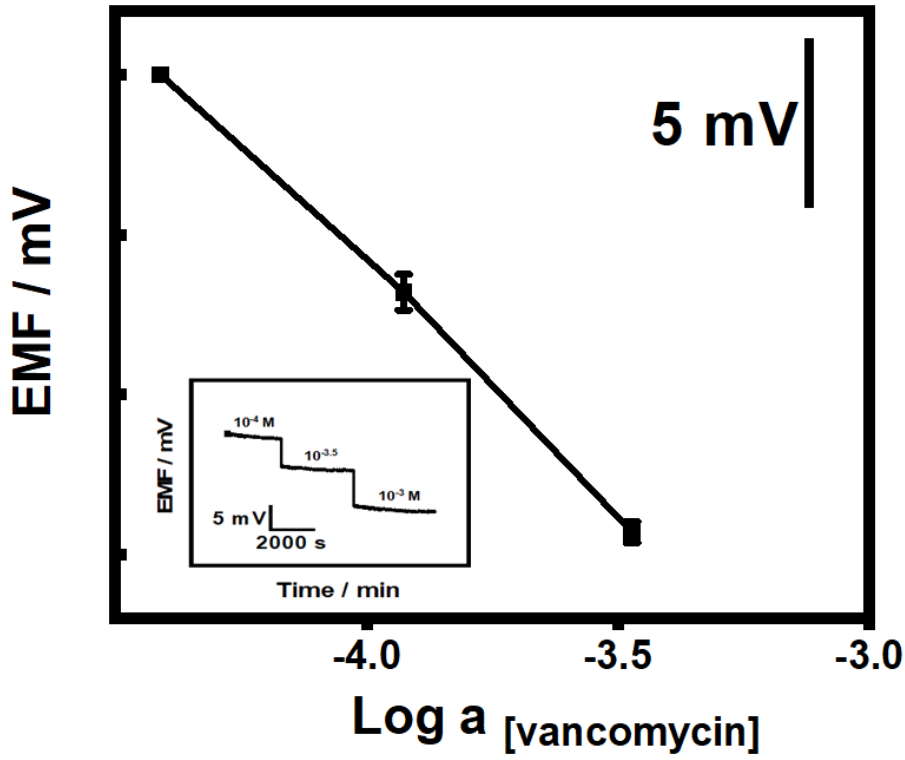

Fig. S5. The electrode responses at higher concentrations (higher than 10^{-4} M). The inset shows the tracing of EMF vs. time.

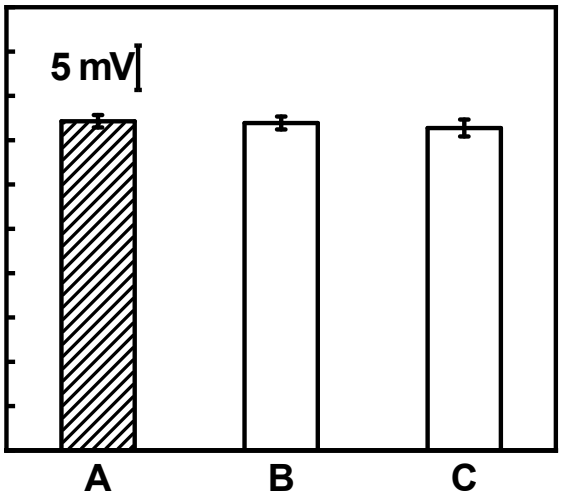

Fig. S6. The potential response of the sensor to 10^{-5} M vancomycin ions in the presence of different interfering cations: A: control blank; B: 10^{-3} M Na^{+}, C: 10^{-3} M K^{+}.

Table S1. Performance comparison between a recently reported work and the present work.

	MIP synthesis method	Linear range	LOD (μM)	Selectivity
Vancomycin selective electrode based on MIP (Reference 22)	Tedious template-removal steps	1.0×10^{-5} to 1.0×10^{-4} mol L^{-1}	6.6	Selectivity coefficients of the electrode over chloramphenicol, metronidazole, cefotaxime, ciprofloxacin, and amoxicillin were 6.98×10^{-3}, 8.54×10^{-3}, > 1, > 1, > 1, respectively.
The present work	Template-removal-free synthesis	1.0×10^{-7} to 1.0×10^{-4} mol L^{-1}	0.025	No obvious interferences towards vancomycin detection from sulfamethoxazole, sulfamethazine, ciprofloxacin, ofloxacin, norfloxacin, sulfadiazine, and tetracycline at a same concentration of 10^{-5} M

Table S2. Application of the proposed method to determination of valinomycin in river water samples spiked with different amounts of valinomycin.

Samples	Valinomycin (μmol·L^{-1})		Recovery (%)
	Added	Found	
0	0	N.D	-
1	5	4.9 ± 0.1	98
2	50	52.3 ± 0.5	105
3	100	101.7 ± 1.1	102