

Supporting information:

A Highly Sensitive and Versatile Chiral Sensor Based on Top-Gate Organic Field Effect Transistors Functionalized with Thiolated β -Cyclodextrin

Xuepeng Wang¹, Yong Wang^{2,3}, Yifan Wu¹, Yin Xiao^{*1}

¹*School of Chemical Engineering and Technology, Tianjin Engineering Research Center of Functional Fine Chemicals, Tianjin University, Tianjin 300072, China*

²*Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin 300072, China*

³*Tianjin Key Laboratory of Molecular Optoelectronic Science, Department of Chemistry, School of Science, Tianjin University, Tianjin 300072, China*

E-mail addresses: xiaoyin@tju.edu.cn

Table of Contents

S-2 **Fig. S1** (a) Output and (b) transfer characteristics of the top-gate OFET before and after it was immersed in water for 24 h.

S-3 **Fig. S2** (a) Output and (b) transfer characteristics of the bottom-gate OFET with PMMA before and after it was immersed in water for 24 h.

S-4 **Table S1** Elemental composition of the gold electrode surface before and after SH- β -CD assembly from XPS wide energy survey.

S-4 **Fig. S3** XPS fully scanned spectrum of the gold electrode surface before (a) and after (b) SH- β -CD assembly.

S-5 **Fig. S4** Output characteristic curves of the OFET with and without SH- β -CD.

S-6 **Fig. S5** Sensing response of the COFET to Phe (5 nM)

S-7 **Fig. S6** The real-time responses of the OFET to *D*- and *L*-Phe with and without SH- β -CD.

S-8 **Fig. S7** The response of the COFET to phosphate buffered FBS without Ibu.

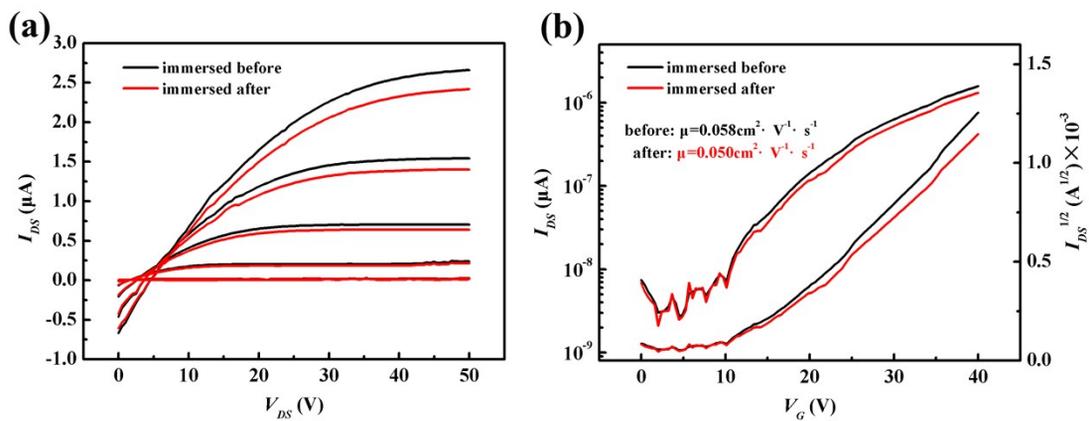


Fig. S1 (a) Output (a) and (b) transfer characteristics of the top-gate OFET before and after it was immersed in water for 24 h.

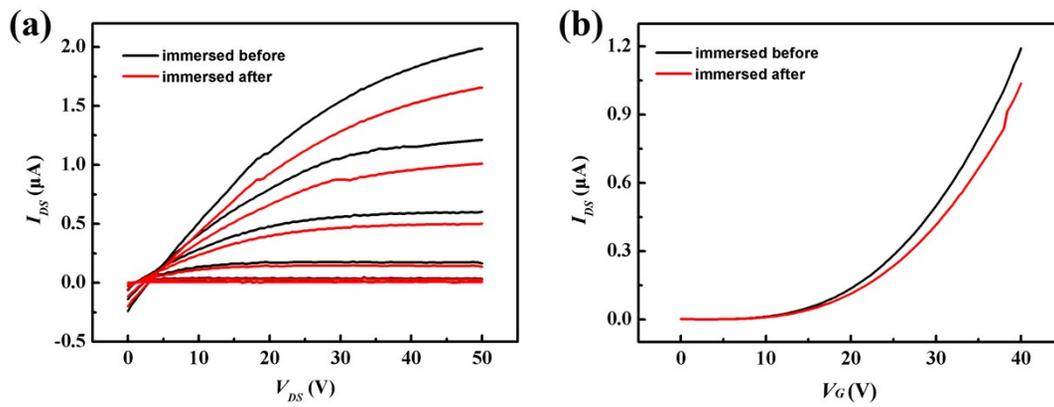


Fig. S2 (a) Output and (b) transfer characteristics of the bottom-gate OFET with PMMA before and after it was immersed in water for 24 h.

Table S1 Elemental composition of the gold electrode surface before and after SH- β -CD assembly from XPS

Sample	Atomic percentage (%)				
	C	N	O	S	Au
SH- β -CD untreated	11.31	0.05	9.61	0	79.03
SH- β -CD treated	35.05	0.83	33.13	2.18	28.82

wide energy survey

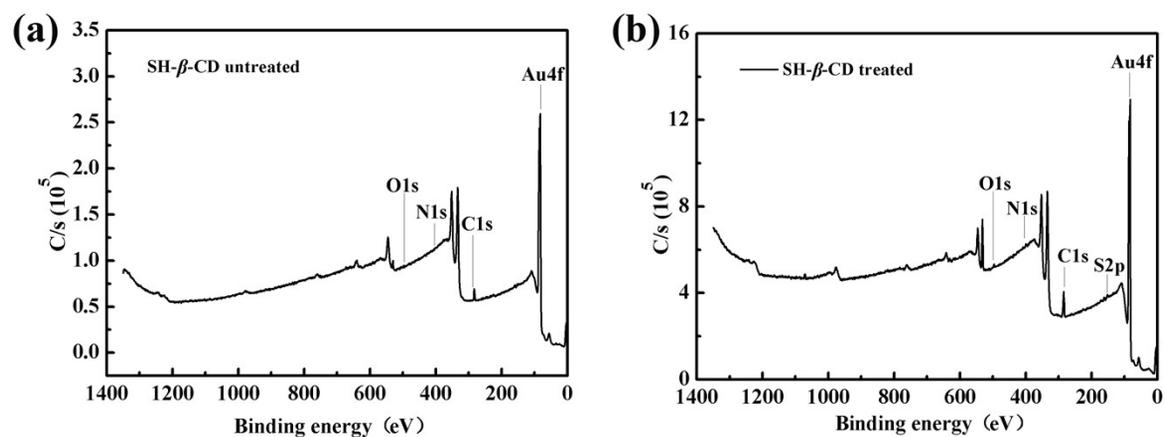


Fig. S3 XPS fully scanned spectrum of the gold electrode surface before (a) and after (b) SH- β -CD assembly.

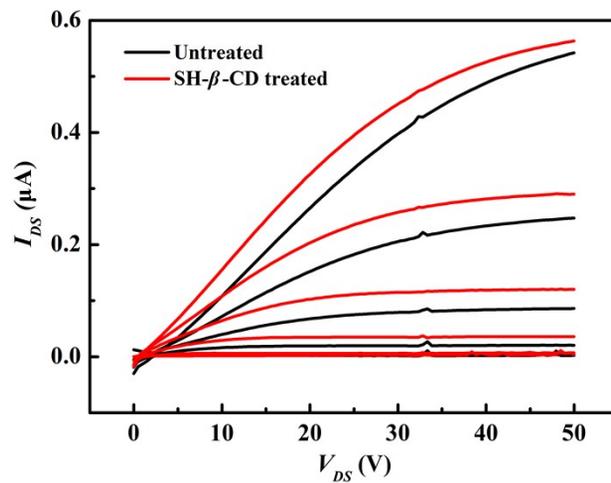


Fig. S4 Output characteristic curves of the OFET with and without SH- β -CD.

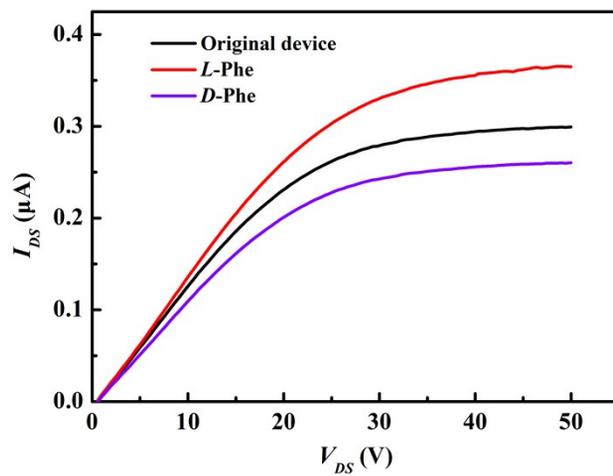


Fig. S5 Sensing response of the COFET to Phe (5 nM).

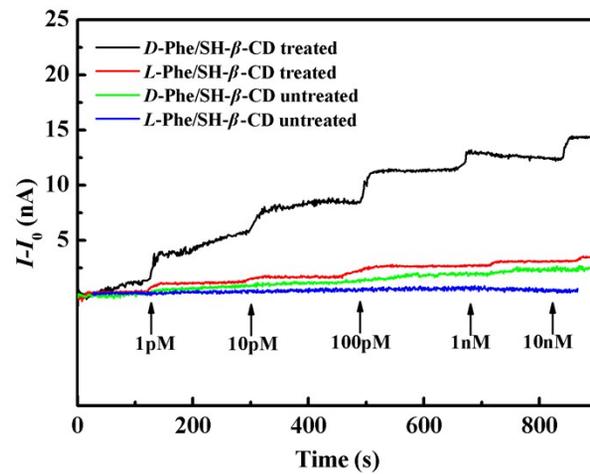


Fig. S6 The real-time responses of the OFET to *D*- and *L*-Phe with and without SH- β -CD.

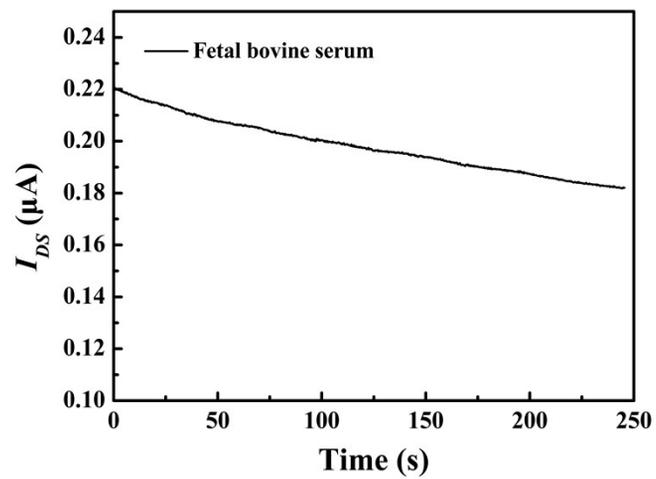


Fig. S7 The response of the COFET to phosphate buffered FBS without Ibu.