

## Supporting Information

### **Molecularly Imprinted Polymer Functionalized Bi<sub>2</sub>S<sub>3</sub>/Ti<sub>3</sub>C<sub>2</sub>T<sub>x</sub> MXene Nanocomposites for Photoelectrochemical/ Electrochemical Dual-Mode Sensing of Chlorogenic Acid**

Zhenli Qiu <sup>1</sup>, Dechun Fan <sup>1</sup>, Xianghang Xue <sup>1</sup>, Shujun Guo <sup>1</sup>, Youxiu Lin <sup>2</sup>, Yiting Chen <sup>1,\*</sup> and  
Dianping Tang <sup>3,\*</sup>

<sup>1</sup> College of Materials and Chemical Engineering, Minjiang University, Fuzhou 350108, China; zhenliqiu@mju.edu.cn (Z.Q.); N191827009@fzu.edu.cn (D.F.); 200627085@fzu.edu.cn (X.X.); 2527@mju.edu.cn (S.G.)

<sup>2</sup> Key Laboratory of Modern Analytical Science and Separation Technology of Fujian Province, College of Chemistry, Chemical Engineering and Environment, Minnan Normal University, Zhangzhou 363000, China; lyx1817@mnnu.edu.cn

<sup>3</sup> Key Laboratory of Analytical Science for Food Safety and Biology (MOE & Fujian Province), Department of Chemistry, Fuzhou University, Fuzhou 350108, China

\* Correspondence: cyt@mju.edu.cn (Y.C.); dianping.tang@fzu.edu.cn (D.T.)

## TABLE OF CONTENTS

<b>Materials and Methods</b> .....	S3
Material and reagent .....	S3
<b>Partial results</b> .....	S3
Figure S1 .....	S3
Figure S2 .....	S3
Figure S3 .....	S4

## 2. Materials and Methods

### 2.1. chemical reagent

All reagents were of analytical grade and used directly for the following experiments. Chitosan (CS),  $\text{Bi}(\text{NO}_3)_3 \cdot 5\text{H}_2\text{O}$ , thioacetamide (TAA), hydrofluoric acid (HF), dimethyl sulfoxide (DMSO) and sulfuric acid ( $\text{H}_2\text{SO}_4$ ) were purchased from Sinopharm Chemical Reagent Co., Ltd. (Shanghai, China).  $\text{TiAlT}_x$  was bought from Foshan Xinxi Technology Co., Ltd. (Foshan, China). Chlorogenic acid (CGA) was purchased from Dalian Meilun Biotechnology Co., Ltd. (Dalian, China). FTO glass was bought from Wuhan Solar Energy Components Co., Ltd. (Wuhan, China). The electrolyte solution was a 0.10 M phosphate buffer solution (pH 7.4, PBS).

## 3. PARTIAL RESULTS

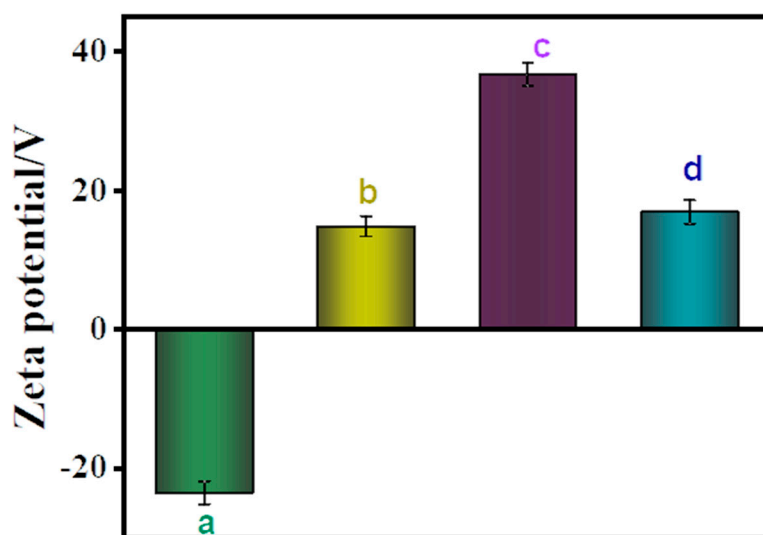


Figure S1. Zeta potential of (a) the  $\text{Ti}_3\text{C}_2\text{T}_x$  MXene nanosheet solution, (b)  $\text{Bi}(\text{NO}_3)_3 \cdot 5\text{H}_2\text{O}$ , (c)  $\text{Bi}_2\text{S}_3$  and (d)  $\text{Bi}_2\text{S}_3/\text{Ti}_3\text{C}_2\text{T}_x$  MXene.

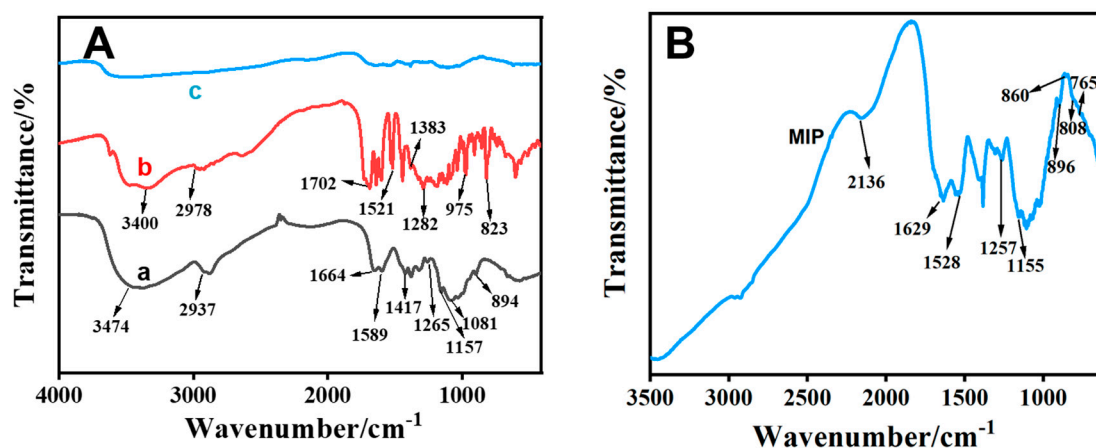
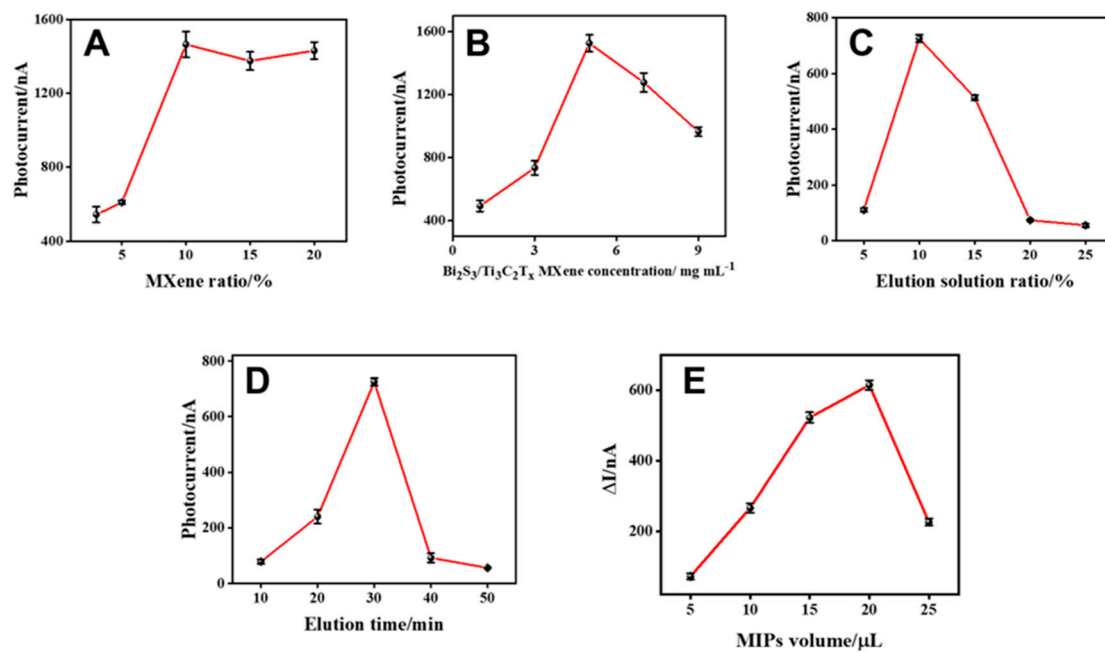


Figure S2. (A) FT-IR spectroscopy of (a) CS, (b) GCA and (c) MIP; (B) FT-IR magnification of MIP.



**Figure S3.** Effects of different factors on photocurrent responses (A) MXene ratio; (B)  $\text{Bi}_2\text{S}_3/\text{MXene}$  concentration; (C) elution solution ratio; (D) elution time; (E) MIP volume.