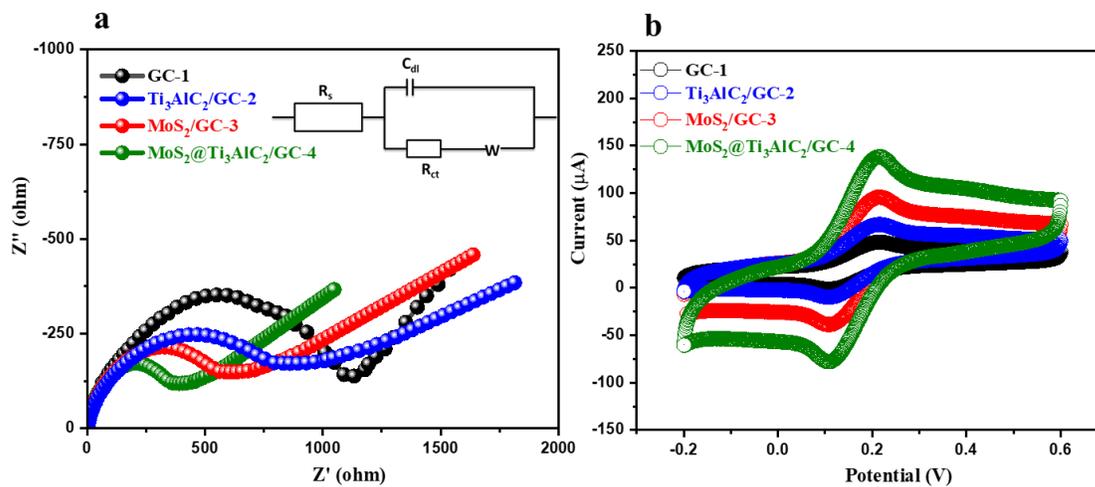
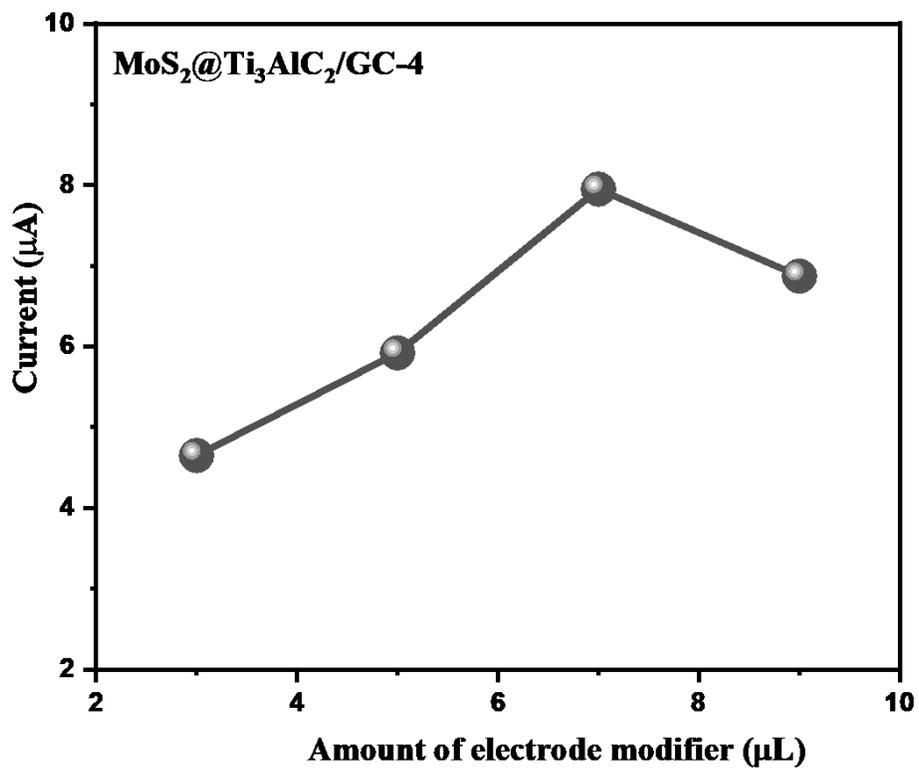


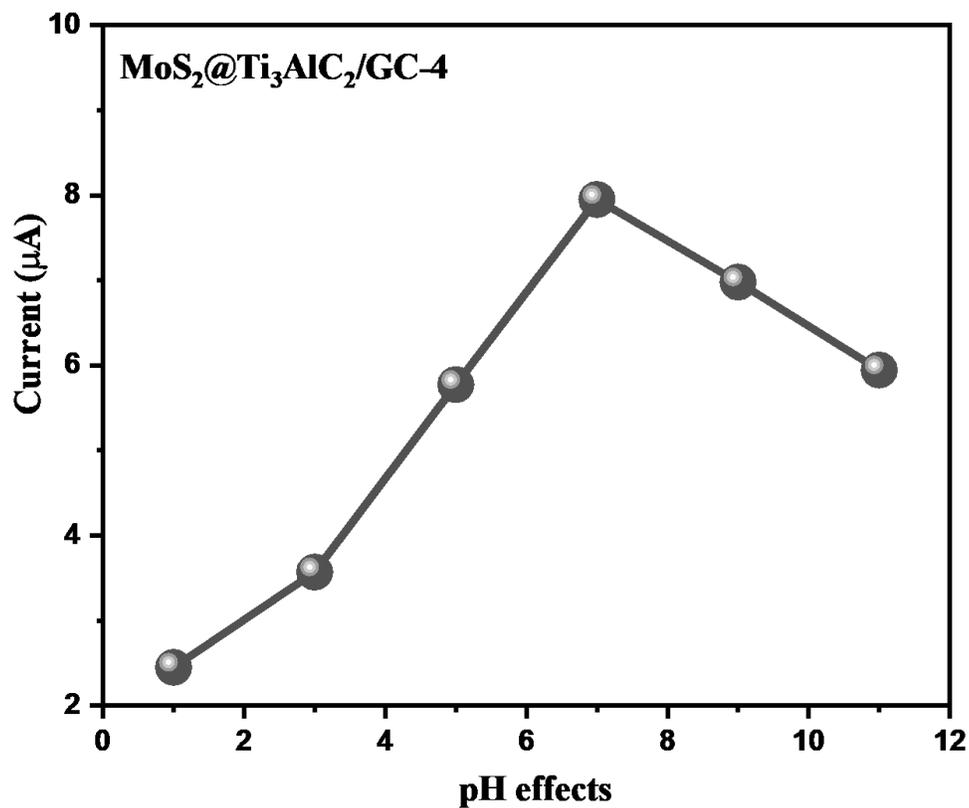
## Supporting information



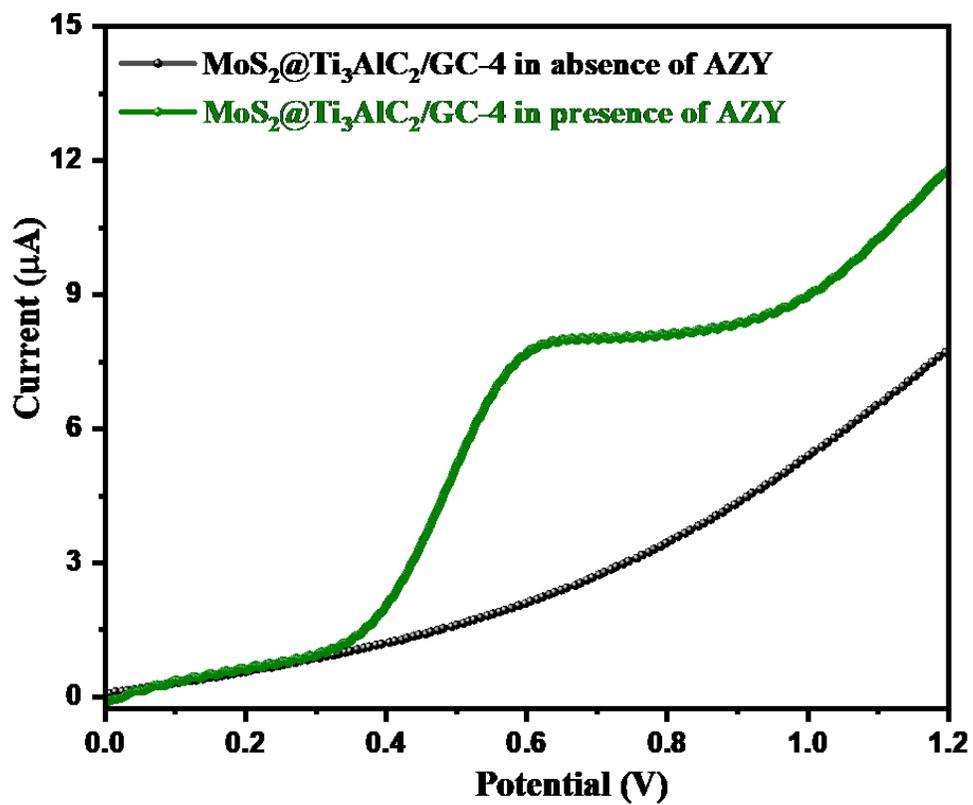
**Figure S1.** Nyquist plots (a) and CVs (b) of the GC-1,  $\text{Ti}_3\text{AlC}_2/\text{GC-2}$ ,  $\text{MoS}_2/\text{GC-3}$  and  $\text{MoS}_2@\text{Ti}_3\text{AlC}_2/\text{GC-4}$  in 5 mM  $[\text{Fe}(\text{CN})_6]^{3-/4-}$  in 0.1 M KCl solution (Frequency range = 0.1-100 KHz for EIS graph). Scan rate = 50 mV/s (for CV graph).



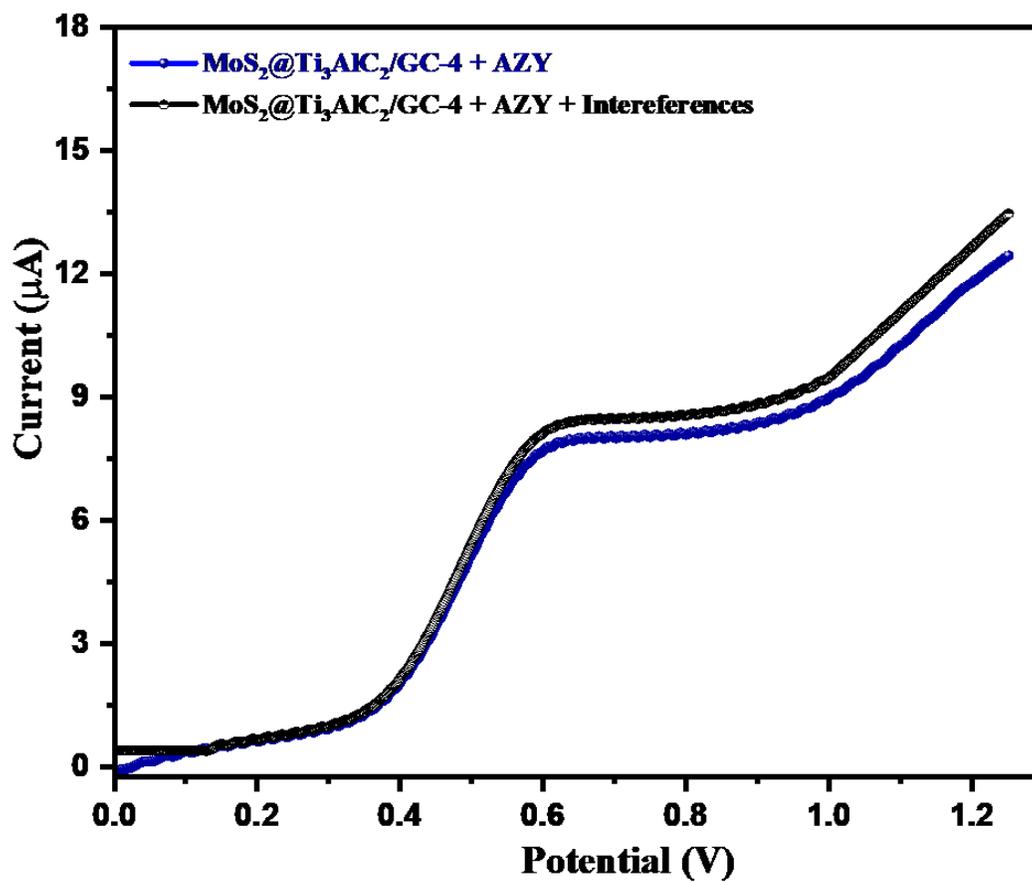
**Figure S2.** Current response of the MoS<sub>2</sub>@Ti<sub>3</sub>AlC<sub>2</sub>/GC-4 (different mass loading; 3, 5, 7 and 9 µL) in 15 µM AZY in 0.1 M PBS (pH = 7) at scan rate of 50 mV/s.



**Figure S3.** Current response of the MoS<sub>2</sub>@Ti<sub>3</sub>AlC<sub>2</sub>/GC-4 (in 15 μM AZY in 0.1 M PBS (different pH; 1, 3, 5, 7, 9 and 11) at scan rate of 50 mV/s.



**Figure S4.** LSVs of the MoS<sub>2</sub>@Ti<sub>3</sub>AlC<sub>2</sub>/GC-4 in absence and presence of 16 μM AZY in 0.1 M PBS (pH = 7) at scan rate of 50 mV/s.



**Figure S5.** Selectivity: LSV response of the MoS<sub>2</sub>@Ti<sub>3</sub>AlC<sub>2</sub>/GC-4 in 16 μM AZY and 16 μM AZY + 80 μM interferences (glucose, fructose, flutamide, dopamine, hydrazine, potassium, uric acid, ascorbic acid, and nitrophenol) in 0.1 M PBS (pH = 7.0) at scan rates of 50 mV/s.