Supporting Information

$CoMoO_4$ and $Ni_{1/3}Co_{2/3}MoO_4$ nanosheets with high performance surpercapacitor and nonenzymatic glucose detection

Jingchao Zhang, Renchun Zhang, Pingping Song, Jingli Zhao, Xueying Guo, Daojun Zhang*, Baiqing Yuan*

Surface analysis and chemical composition of the $Ni_{1/3}Co_{2/3}MoO_4$ nanosheets was performed by X-ray photoelectron spectroscopy using a VG ESCALAB 200R spectrometer using monochromatic Al Kα radiation and an inductively coupled plasma atomic emission spectrometer (ICP-AES, IRIS Intrepid II XSP, ThermoFisher).

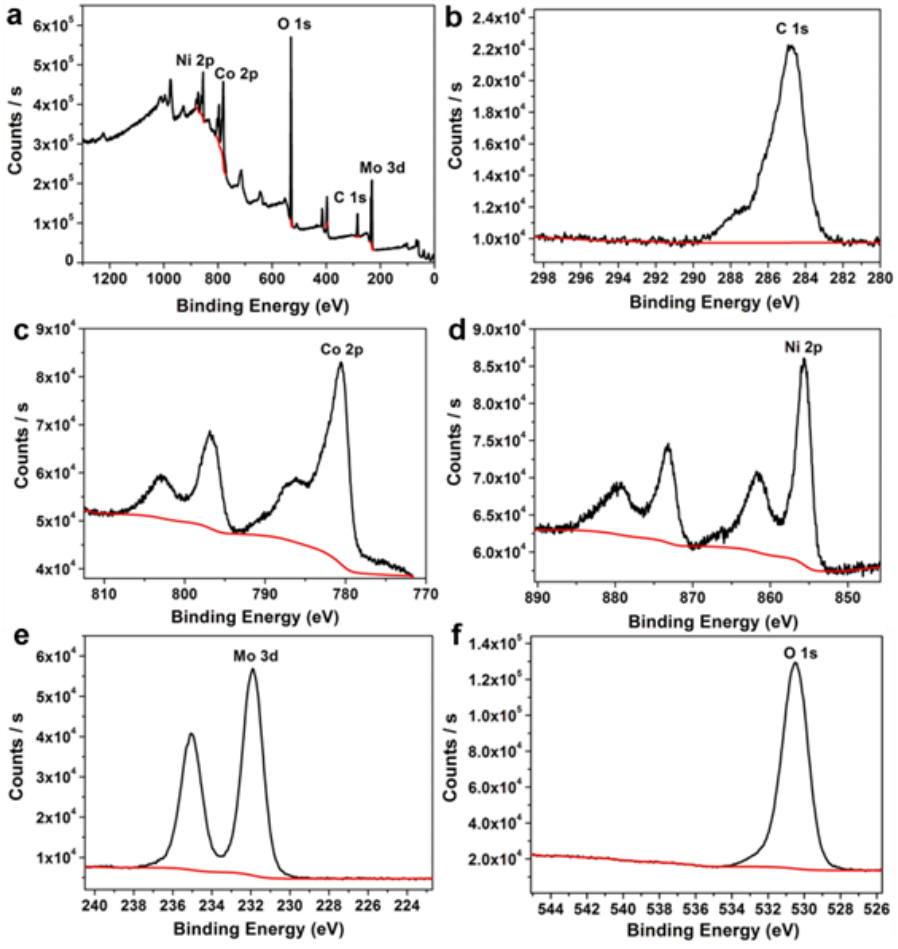

Fig.S1 X-ray photoelectron (XPS) spectra of the $Ni_{1/3}Co_{2/3}MoO_4$ nanosheets: (a) survey spectrum, (b) C 1s, (c) Co 2p, (d) Ni 2p, (e) Mo 3d, and (f) O 1s.

Table S1. Quantitative analysis of Co and V contents by ICP-AES.

Sample	Co %	Ni %	Co/Ni mole ratio
$Ni_{1/3}Co_{2/3}MoO_4$	26.61	13.73	1.93:1

The electrochemical impedance spectra were further studied in the revised manuscript. Electrochemical impedance spectroscopies were measured at open circuit potential with amplitude of 5 mV in a frequency range from 0.01 to 100 kHz. The Nyquist plots of $CoMoO_4$ and $Ni_{1/3}Co_{2/3}MoO_4$ nanosheets electrodes were shown in Fig.S2. In the low frequency region, the slope indicated the diffusion resistance for the two samples is almost the same. Furthermore, a small semicircle in the high frequency region indicated the nickel ions-doping endow the $Ni_{1/3}Co_{2/3}MoO_4$ sample with a lower charge transfer resistance than the pure $CoMoO_4$ sample, which was ascribed to the high electronic conductivity of the doped sample.

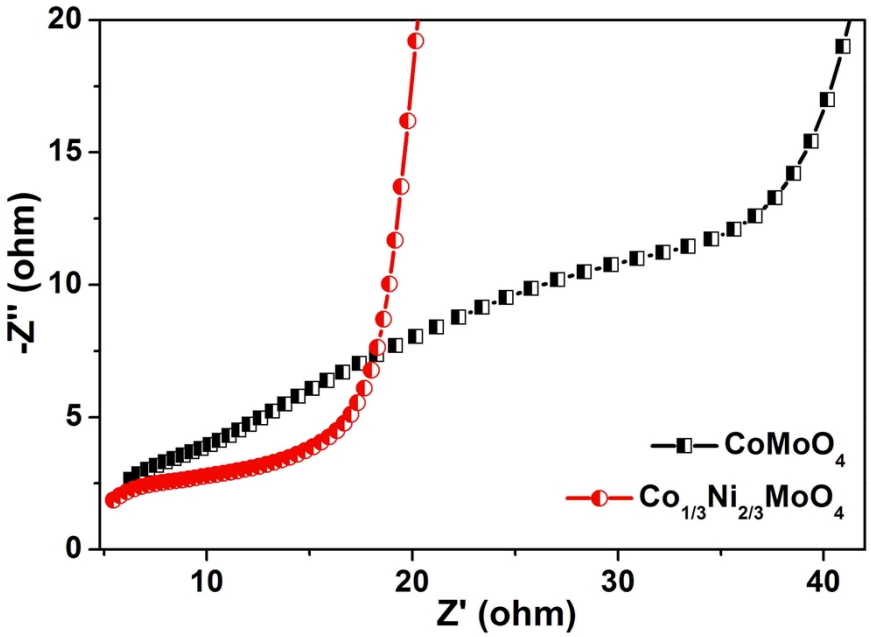

Fig.S2 Electrochemical impedance spectra (EIS) of $CoMoO_4$ and $Ni_{1/3}Co_{2/3}MoO_4$ nanosheets electrodes.

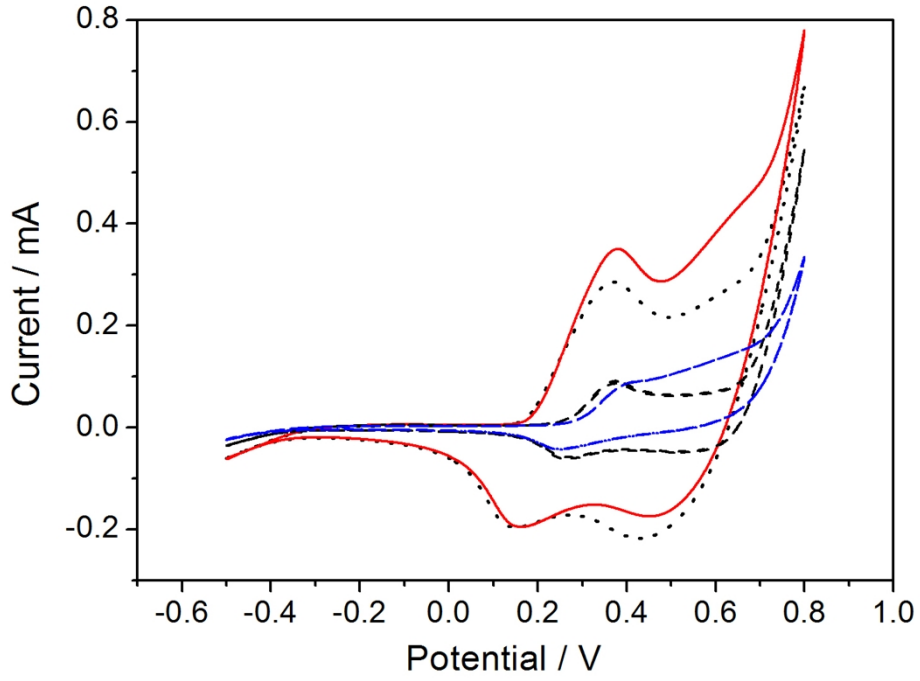

Fig.S3 CV curves of $CoMoO_4$-CPE (dotted and solid lines) and $Ni_{1/3}Co_{2/3}MoO_4$-CPE (dashed and dash dotted lines) in the absence (dotted and dashed line) and presence (solid and dash dotted lines) of 5 mM glucose in 0.1 M NaOH.

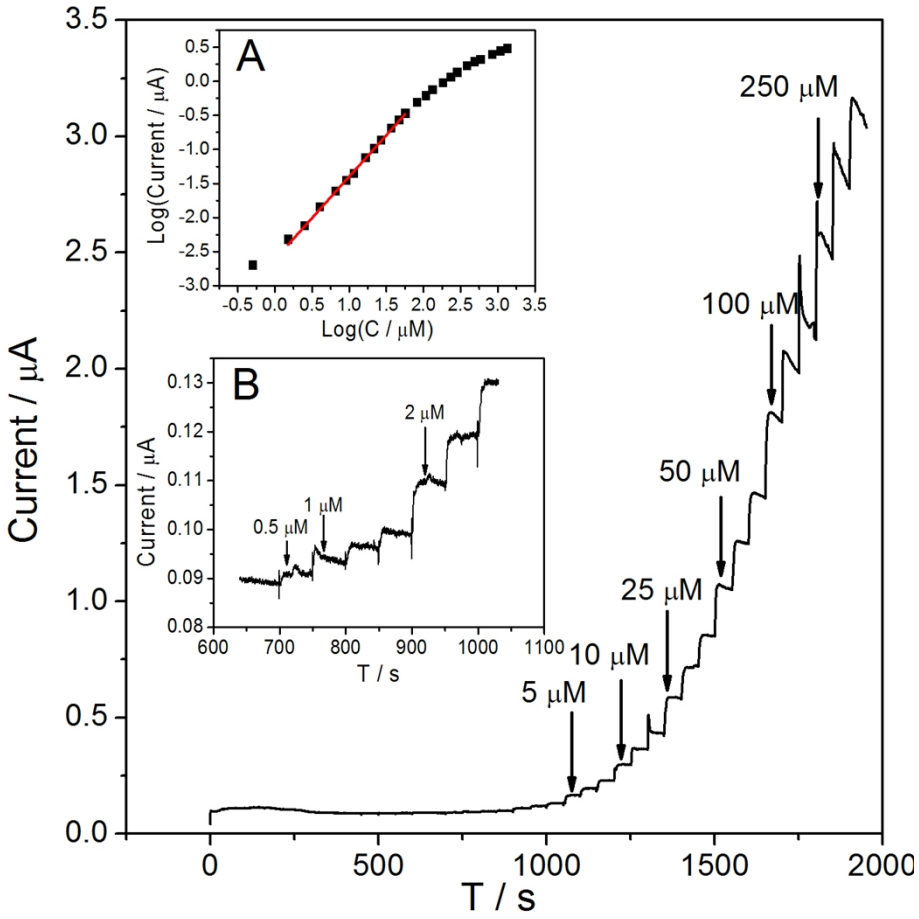

Fig.S4 Amperometric sensing of glucose by successive addition of glucose for $Ni_{1/3}Co_{2/3}MoO_4$-CPE at 0.4 V in 0.1 M NaOH. Inset: (A) Log-log plot of amperometric response versus the concentration of glucose; (B) Amperometric curve at low concentration of glucose.