Supporting Information

Electrochemical oxidation of 5-hydroxymethylfurfural over molybdenum sulfide modified nickel-based catalyst

*Zijia Li[a], Yingyi Han[a], Baobing Huang[*b], Zailai Xie[a], Qiao-Hua Wei[*a]*

aFujian Key Laboratory of Electrochemcial Energy Storage Materials, College of Chemistry, Fuzhou University, 2 Xueyuan Road, Fuzhou 350016

bSchool of Advanced Manufacturing, Fuzhou University, 1 Shuicheng Road, Jinjiang 362200

Corresponding authors. E-mails: qhw76@fzu.edu.cn

Table S1. Element distribution of Ni-MoS_x/NF obtained from EDS.

Sample	element	Mass percentage
Ni-MoS_x/NF	Mo	40.04%
	O	34.57%
	Ni	15.31%
	S	10.08%

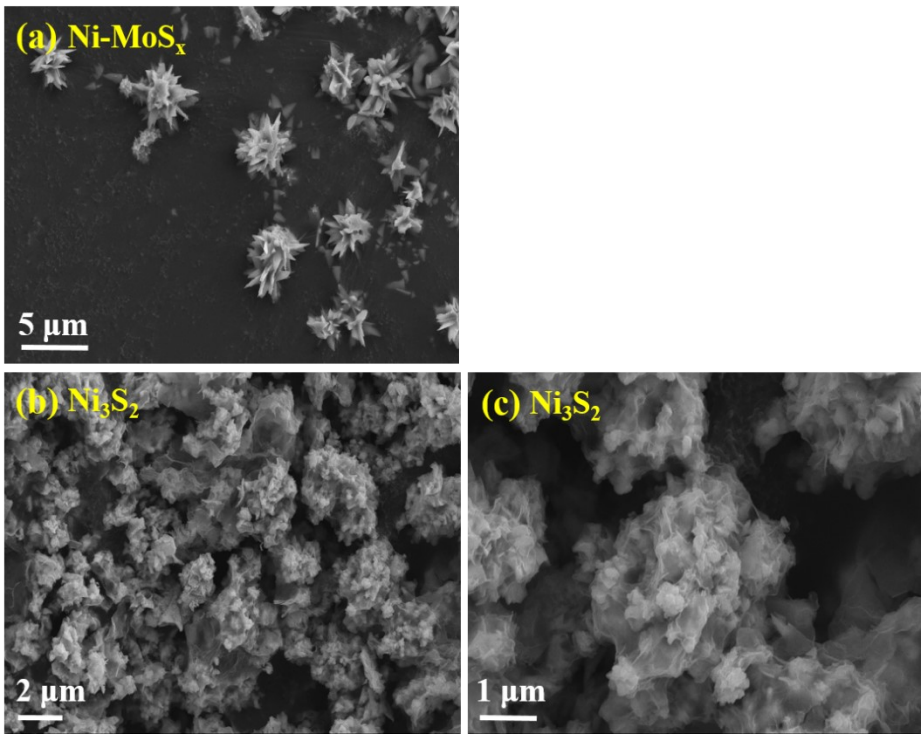

Figure S1. SEM images of Ni-MoS_x/NF(a) and Ni_3S_2/NF (b-c).

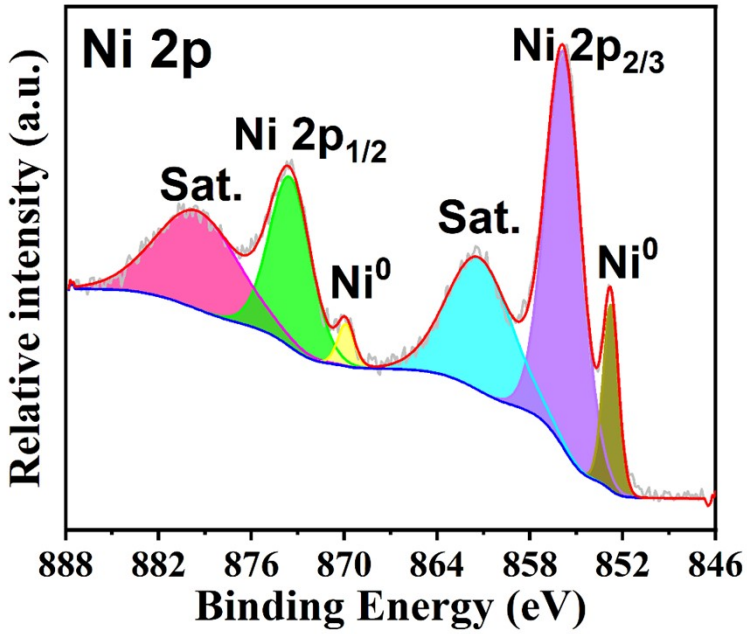

Figure S2. The spectra of Ni 2p of the Ni_3S_2/NF

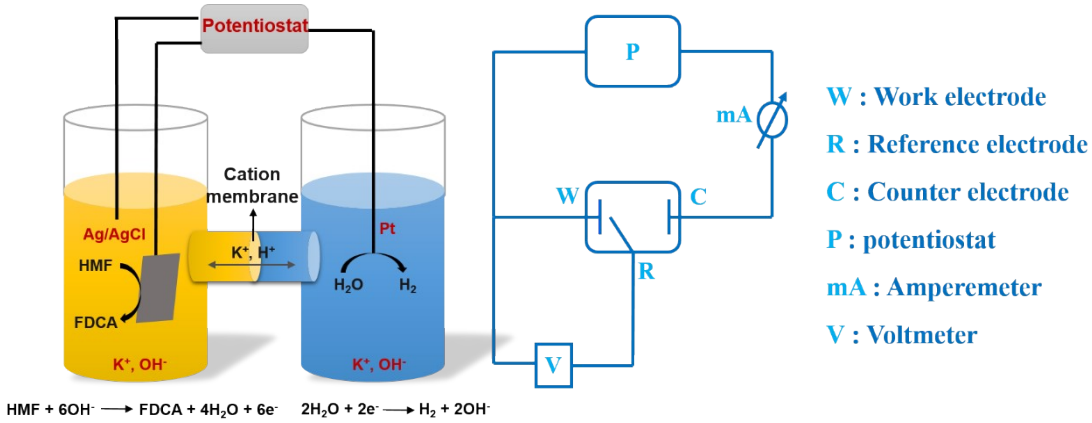

Figure S3. Schematic diagram of the electrochemical system used for HMF oxidation with cathode and anode cell reactions.

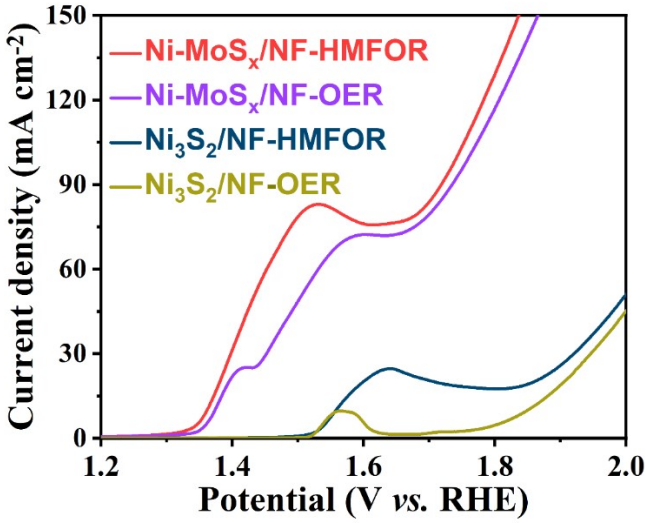

Figure S4. LSV curves of Ni-MoS_x/NF and Ni_3S_2/NF with and without 10 mM HMF.

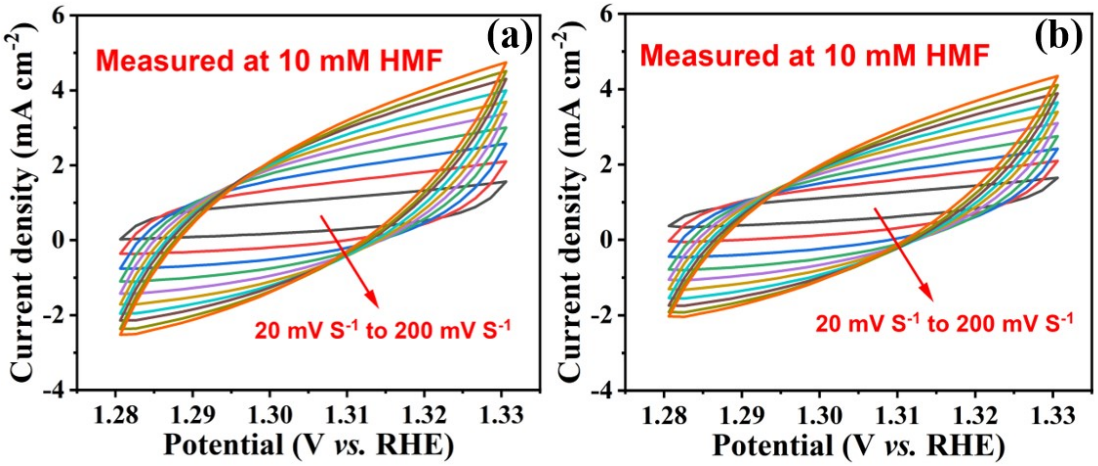

Figure S5. CVs of Ni-MoS_x/NF(a) and Ni_3S_2/NF(b) in the non-faradaic capacitance current range at scan rates of 20-200 mV/s.

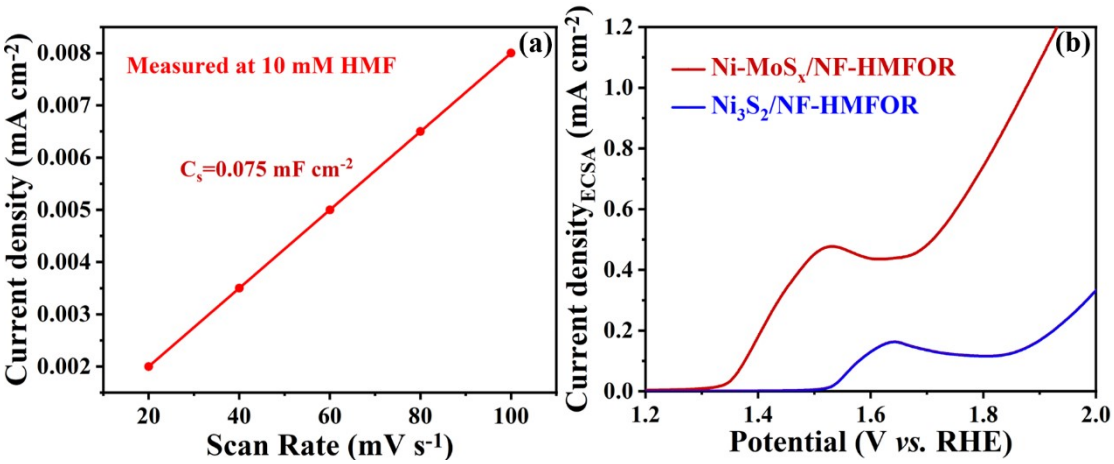

Figure S6. (a) C_s values were obtained using blank nickel foam. (b) The ECSA normalized polarization curves.

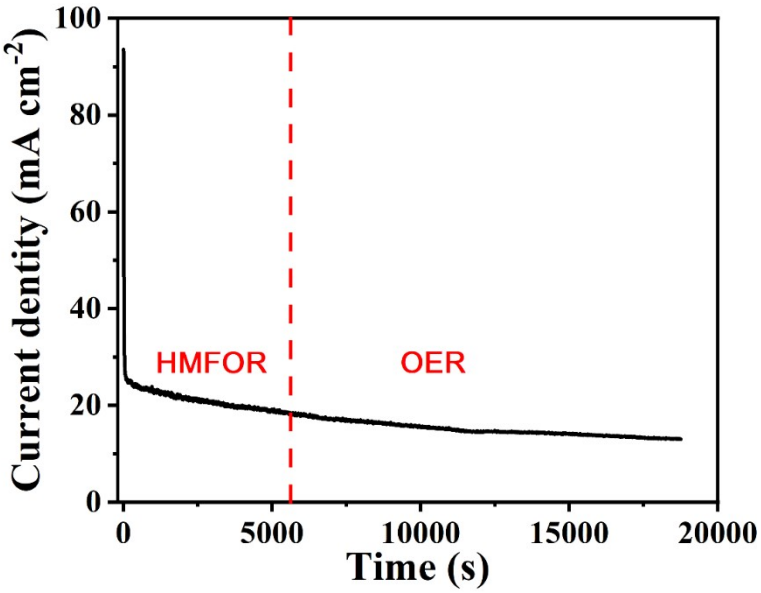

Figure S7. Current density–time curve in the process of reaction.

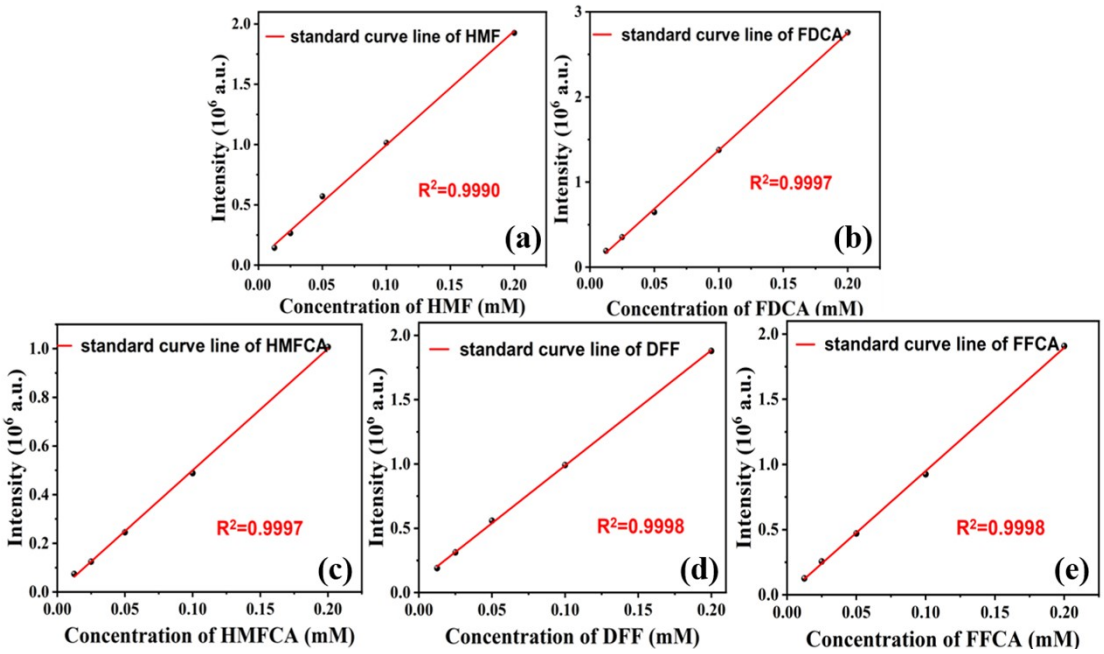

Figure S8. Calibration of the HPLC for (a)HMF, (b) FDCA, (c)HMFCA, (d)DFF and (e)FFCA.