

Supplementary Information

Multifunctional Ni-Mg-Bimetal-Activated Zn(O,S) for Hydrogen Generation and Environmental Remediation with Simulated Solar-Light Irradiation

Hairus Abdullah⁺⁺, Hardy Shuwanto⁺⁺, Dong-Hau Kuo^{*}

*Department of Materials Science and Engineering, National Taiwan University of Science and
Technology*

⁺⁺ HA and HS equally contributed to this work

*E-mail: dhkuo@mail.ntust.edu.tw

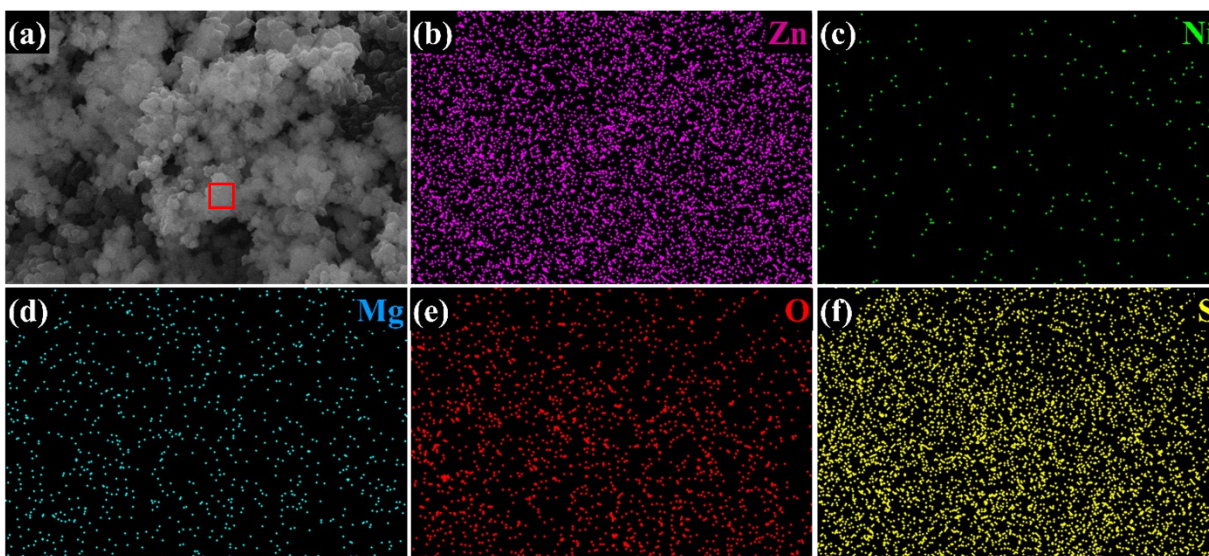


Fig. S1 (a) SEM image of NMZ-S10 with its SEM-EDS elemental mapping in the red square area to indicate the existences of (b) Zn, (c) Ni, (d) Mg, (e) O, and (f) S in NMZ-S10 catalyst.

Samples	Element Concentration (ppm)			
	Zn	Ni	Mg	S
NMZ-S0	2.8177	0.2194	0.2219	0
NMZ-S5	2.9041	0.2302	0.2518	0.6260
NMZ-S10	3.0210	0.2121	0.2432	0.7452
NMZ-S20	3.1224	0.2465	0.2485	0.7716

Fig. S2 ICP analysis data of as-prepared NMZ-S_x (x= 0, 5, 10, 20) to indicate the element concentration in each catalyst.

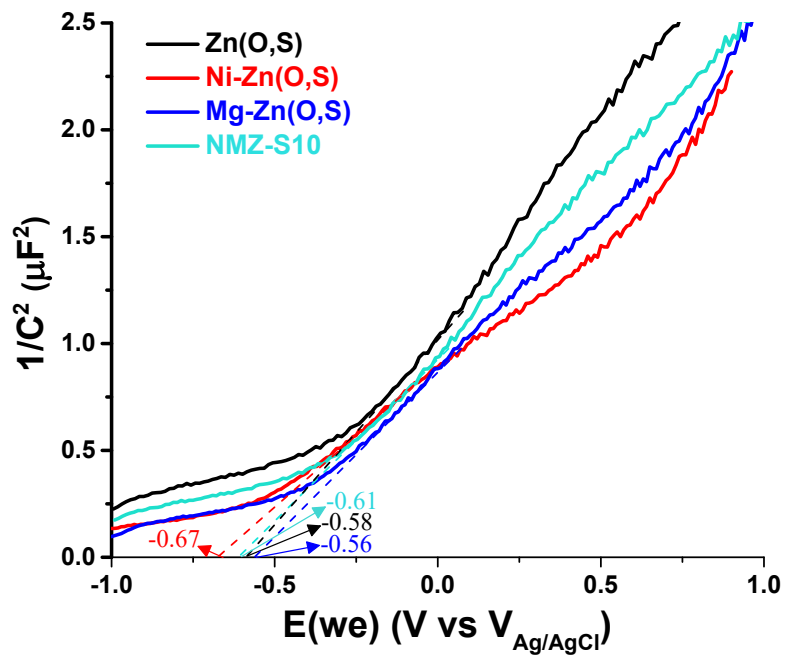


Fig. S3 Mott-Schottky plot of Zn(O,S), Mg- and Ni-doped Zn(O,S), and NMZ-S10 to show the changes of flat-band potentials