

Electronic Supplementary Information

A General Strategy for the Functionalization of Two-dimensional Metal Dichalcogenides

Jianfeng Shen^a, He Wang^a, Peiyuan Zhuang^a, Haotian Zeng^b, Yuancai Ge^a, Steven
Craig^c, Pei Dong^c, Shang-Peng Gao^{b*}, Mingxin Ye^{a*}

^aInstitute of special materials and technology, Fudan University, 200433, Shanghai,
China. E-mail: mxye@fudan.edu.cn

^bDepartment of Materials Science, Fudan University, Shanghai 200433, China. E-mail:
gaosp@fudan.edu.cn

^cDepartment of Mechanical Engineering, George Mason University, Virginia, 22030,
USA

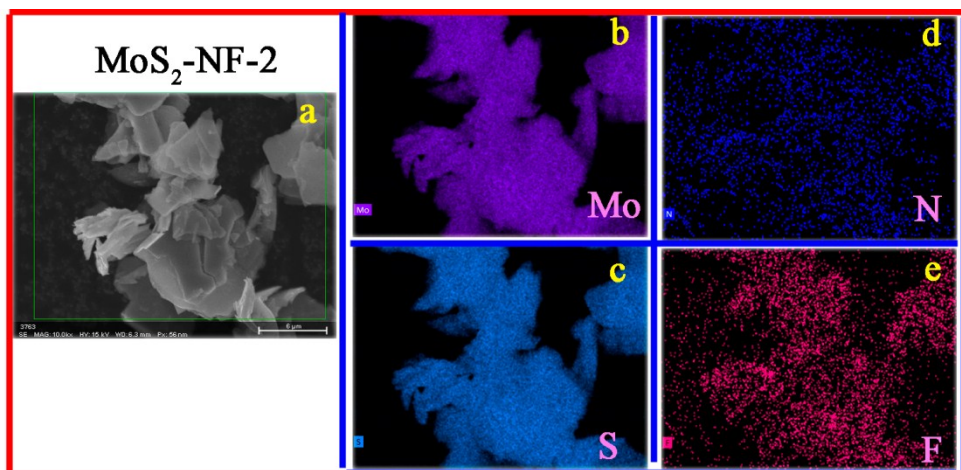


Figure S1 SEM (a) and EDX-Mapping (b-e) of MoS₂-NF-2

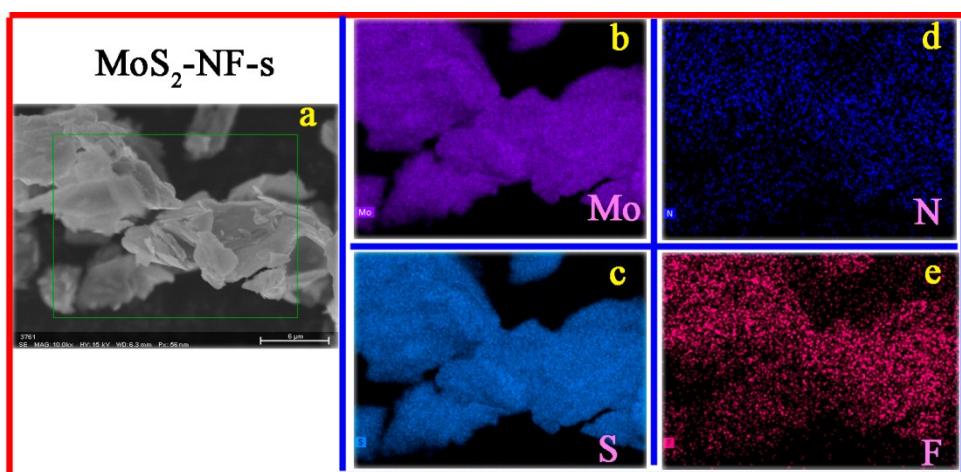


Figure S2 SEM (a) and EDX-Mapping (b-e) of MoS₂-NF-s

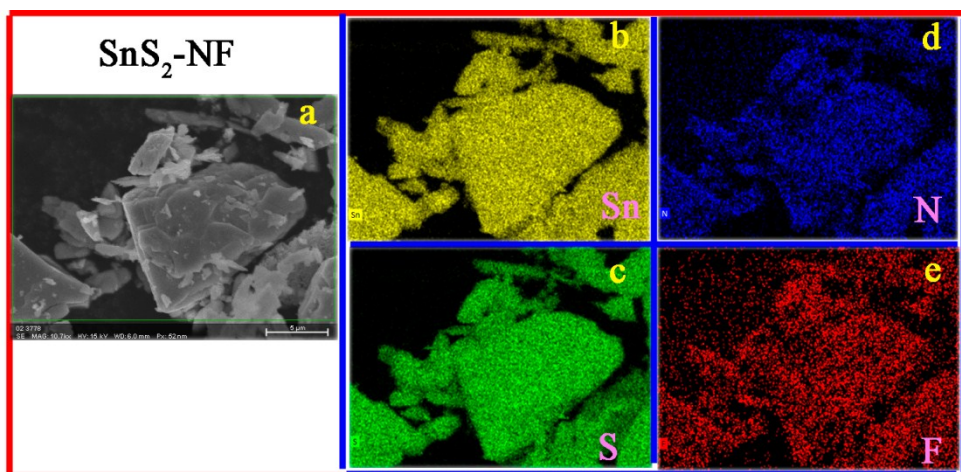


Figure S3 SEM (a) and EDX-Mapping (b-e) of SnS₂-NF

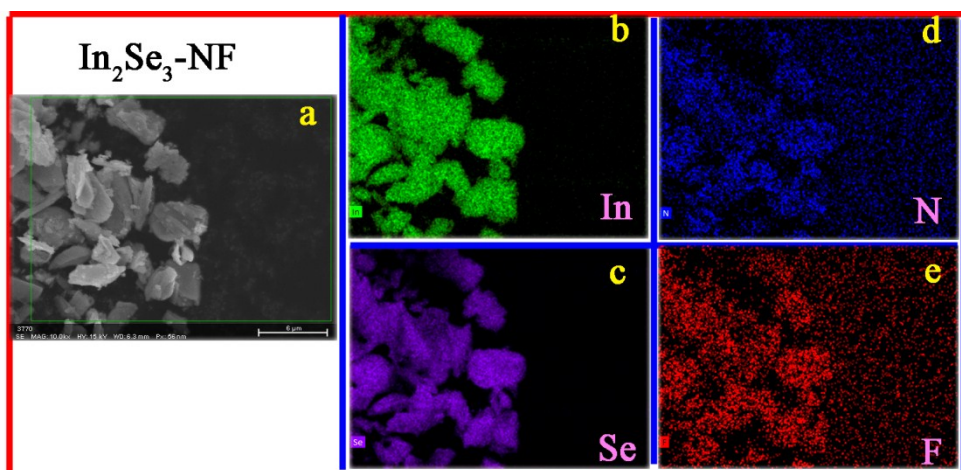


Figure S4 SEM (a) and EDX-Mapping (b-e) of $\text{In}_2\text{Se}_3\text{-NF}$

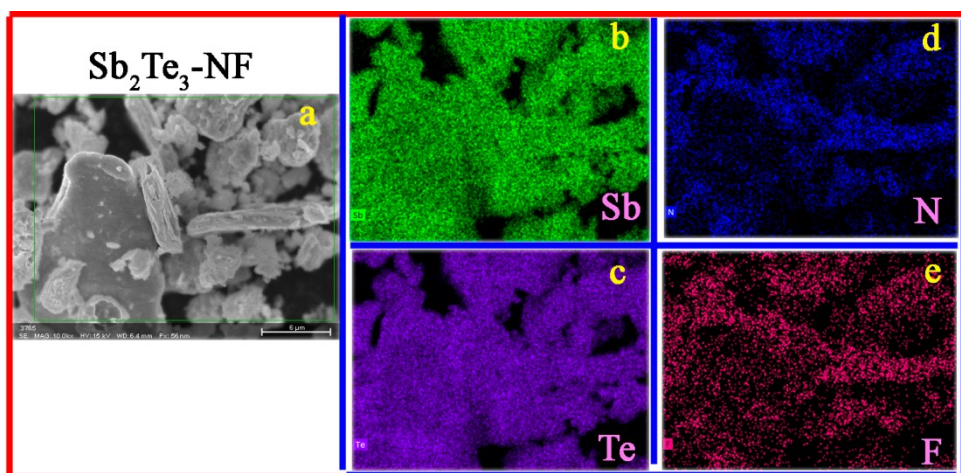


Figure S5 SEM (a) and EDX-Mapping (b-e) of $\text{Sb}_2\text{Te}_3\text{-NF}$

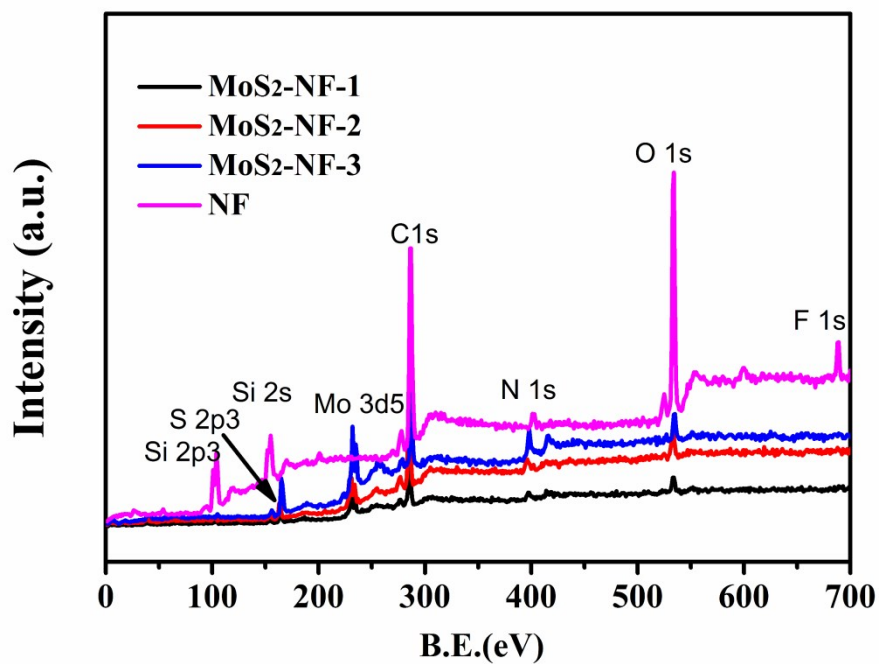


Figure S6 XPS survey spectra of MoS₂-NFs and NF

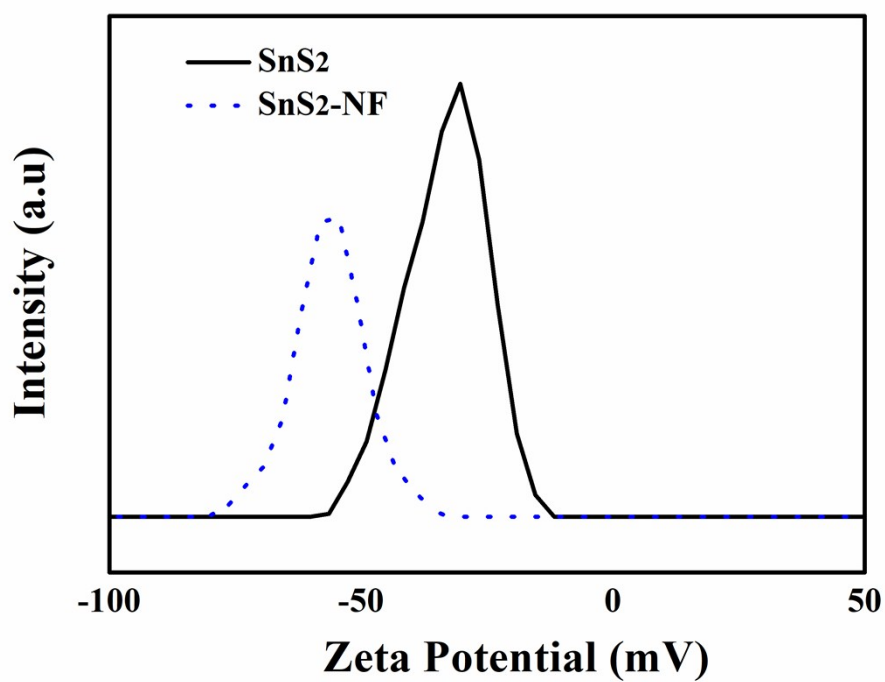


Figure S7 Zeta potential of pristine and functionalized SnS₂ nanosheets

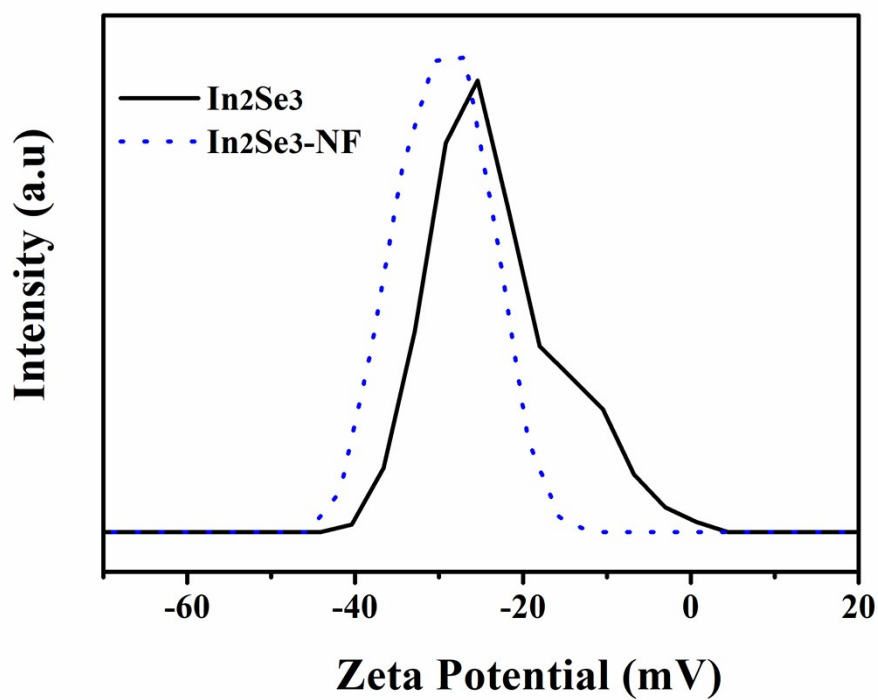


Figure S8 Zeta potential of pristine and functionalized In₂Se₃ nanosheets

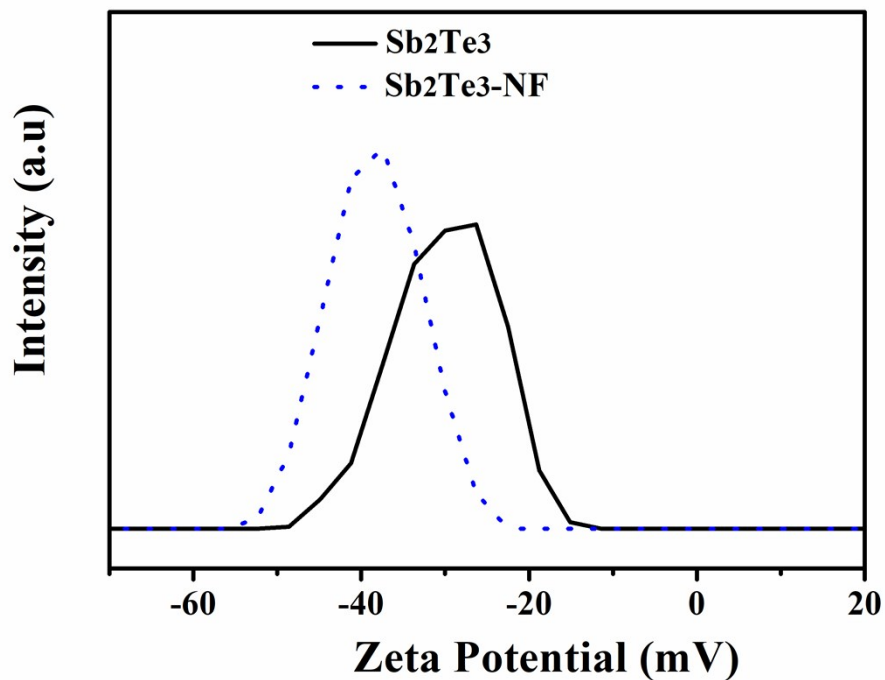


Figure S9 Zeta potential of pristine and functionalized Sb₂Te₃ nanosheets

Table S1 Summary of the position and FWHM of E_{2G}^1 and A_{1G} of original and functionalized MoS_2 .

	Peak position (cm^{-1})		FWHM (cm^{-1})	
	E_{2G}^1	A_{1G}	E_{2G}^1	A_{1G}
MoS_2	379.2	404.3	9.2	9.4
MoS_2 -NF-1	376.6	403.4	9.8	10.1
MoS_2 -NF-2	376.1	402.9	10.2	10.5
MoS_2 -NF-3	375.2	402.3	11.1	10.7