Distorted 2H/1T MoS_2 Nanostructure with Improved Field Emission and Sodium-Ion Battery Performance

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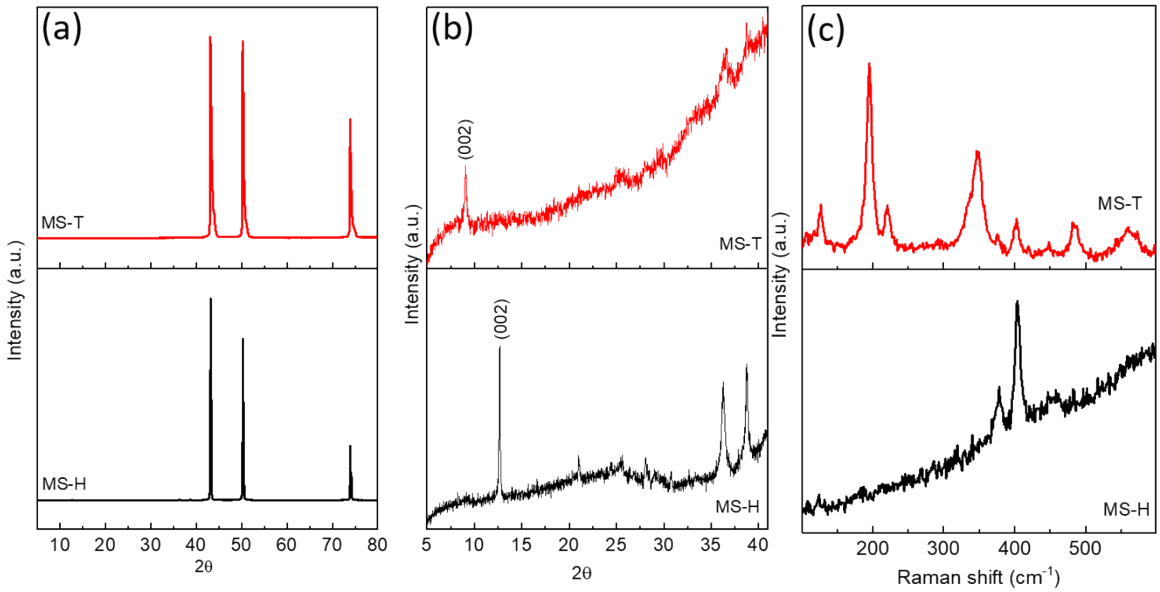

Figure S1 (a) XRD patterns (b) Raman of 2H MoS_2 (MS-H) and 1T MoS_2 (MS-T) after cycling

Table S1: Comparison of FEE characteristics of similar 2D layered emitters

Sr No	Field emitters	Synthesis method	Turn on Voltage (V/μm)	Maximum current density (μA/cm²)	References
1.	MoS_2	Pulsed laser-deposition	2.8 at 10 μA/cm²	-	**1**
2.	MoS_2-Graphene nanocomposite	Pulsed laser-deposition	1.91 at 1 μA/cm²	~ 435 at 3.60 V/μm	2
3.	WS_2-RGO	Hydrothermal	2 at 1 μA/cm²	800 at 4.1 V/μm	3
4.	VS_2	Hydrothermal	4.0 at 1 μA/cm²	-	4
5.	ReS_2	Hydrothermal	2.10 at 1μA/cm²	~ 850 at 4 V/μm	5
6.	MoS_2	Polyol method	4.2 at 1μA/cm²	-	6
7.	MoS_2	Solution method	3.5 at10 μA/cm2	-	7
8.	MoS_2 2H	Solid state	2.07 at 1 μA/cm²	~ 551 at 5.15 V/μm	This work

9.	MoS_2 1T	Solid state	1.84 at 1 $\mu A/cm^2$	~ 830 at 4.37 V/µm	This work

Table S2: Comparison of electrochemical performance of Reported MoS_2

Sr No	**Anode material**	**Synthesis method**	**Discharge Capacity (mA h g^{-1})/ Current (mA g^{-1})**	**References**
1.	DP-MoS_2	Solvothermal	300/ 200	8
2.	2H-MoS_2	Solvothermal	210/ 200	8
3.	MoS_2	Hydrothermal	543/200	9
4.	2H-MoS_2	Solvothermal	164/200	10
5.	MoS_2	Solvothermal	497.5/100	11
6.	MoS_2	Facile solution process	~350/50	12
7.	**MoS_2**	Solid state	98.79/100	13
8.	1T-MoS_2	Li^+ intercalation assisted exfoliation	324/1000	14
9.	1T MoS_2/GF	Solvothermal	313/50	15
10.	MoS_2 2H	Solid state	363 /200	This work
11.	MoS_2 1T	Solid state	506 /200	This work

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