

Supporting Information

Cost-Effective and High-Sensitivity Pressure Sensor for Wearable Electronics Using MXene/Ag NFs-Coated Cotton Fabric

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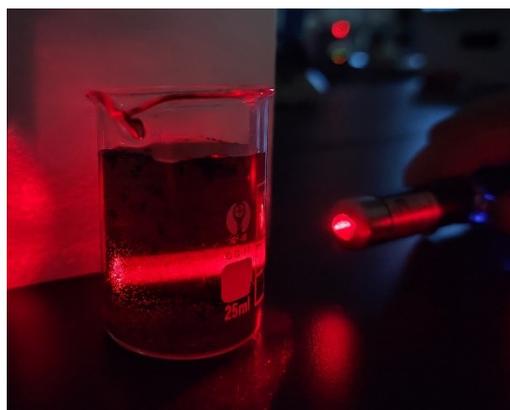


Fig. S1 Digital photography of $Ti_3C_2T_x$ aqueous dispersion.

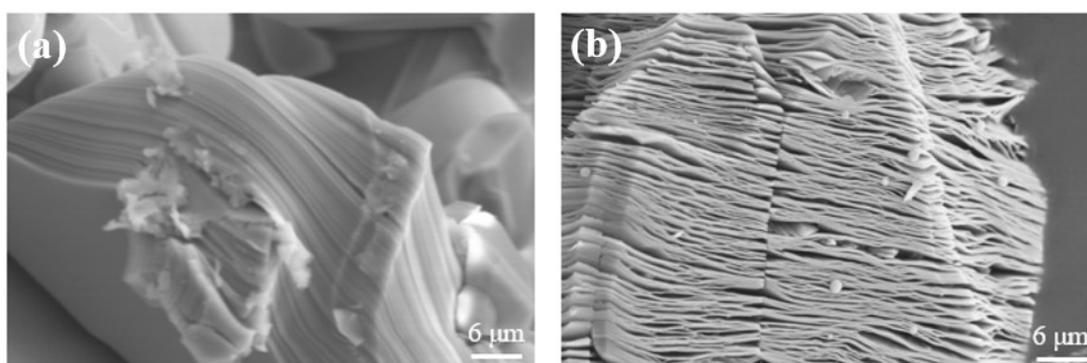


Fig. S2 SEM images of Ti_3AlC_2 powder and multilayer MXene.

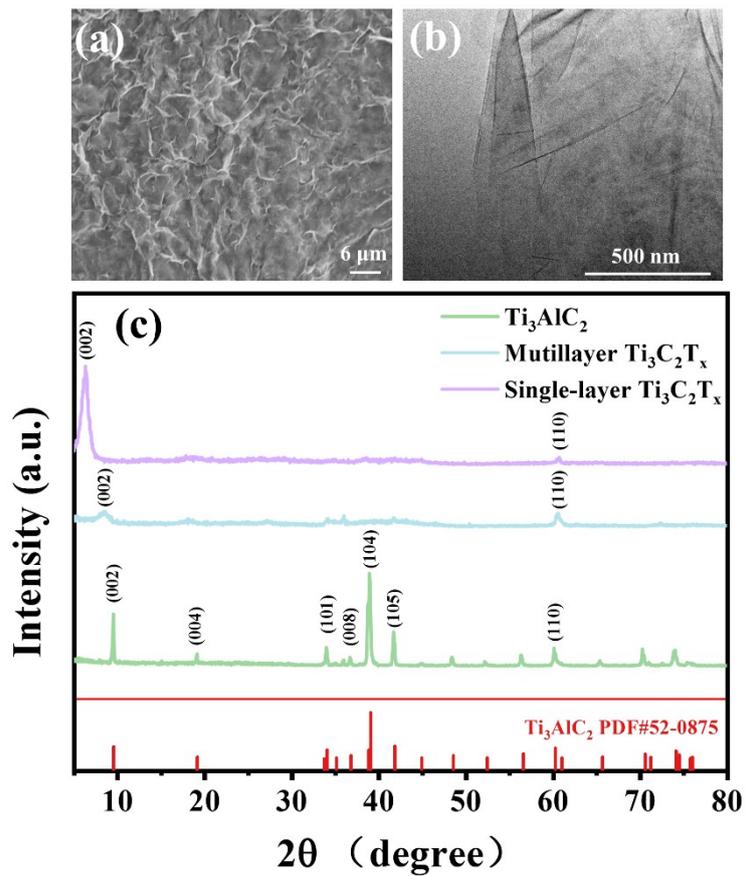


Fig. S3 (a)-(b) SEM and TEM image of MXene. (c) XRD images of Ti_3AlC_2 powder, multilayer MXene after 24h etching, and monolayer MXene.

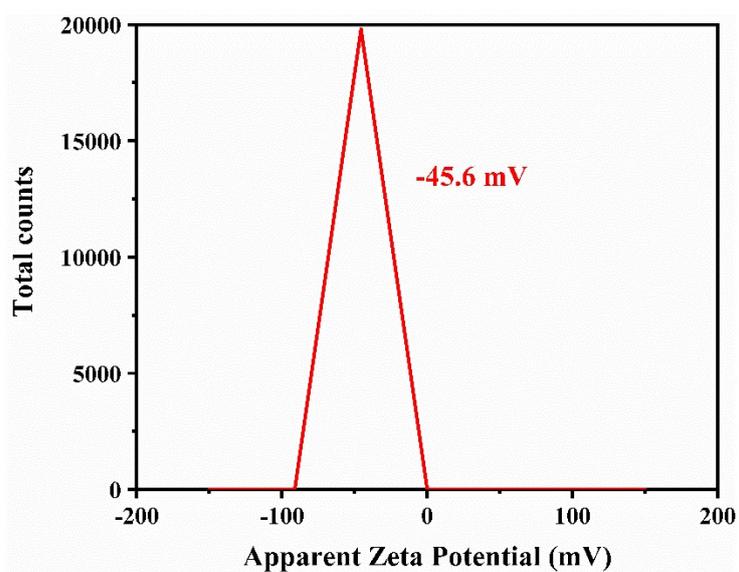


Fig. S4 Zeta potential diagram of MXene.

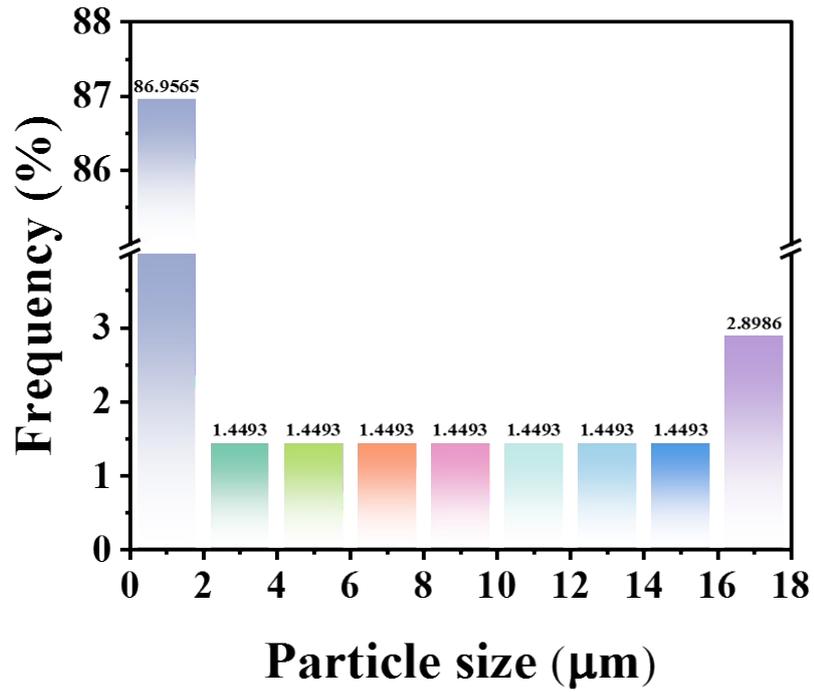


Fig. S5 Particle size distribution of Ag NFs.

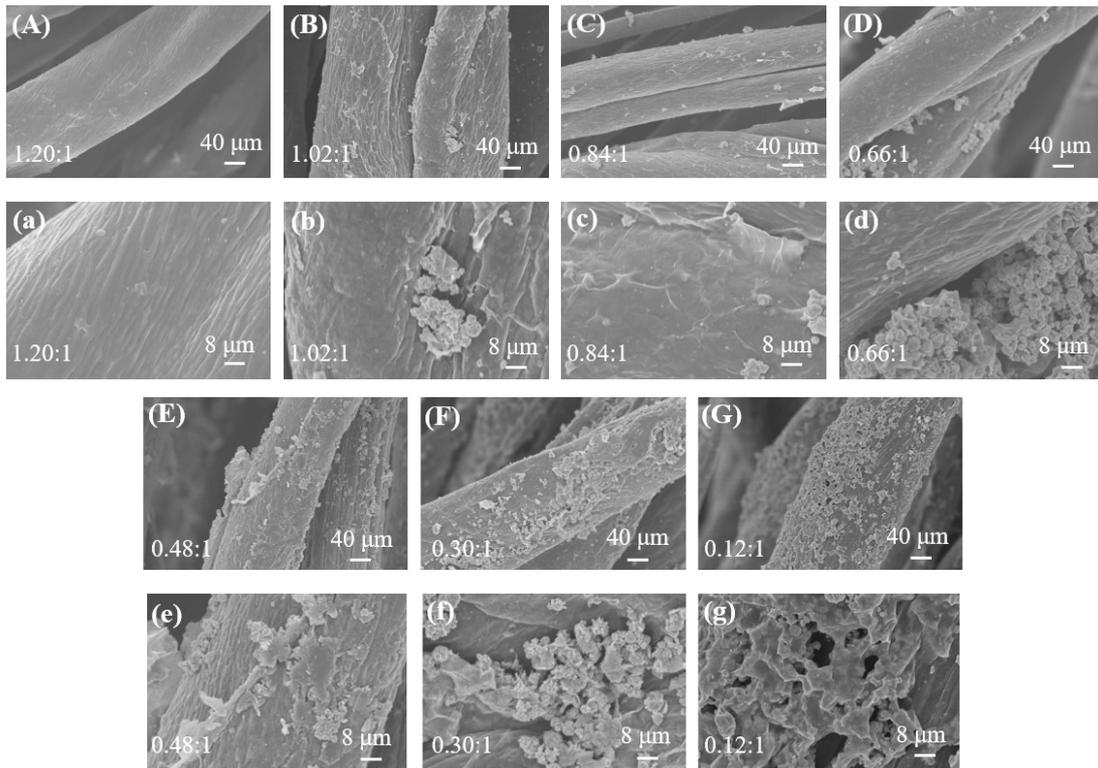


Fig. S6 SEM images of cotton fabric impregnated with different MXene: Ag NFs (mass ratio).

Table S1. Comparison of piezoresistive pressure sensors based on various materials.

Materials	Sensitivity (kPa ⁻¹)	Sensing range (kPa)	Reference
MXene@PDMS	2.6 (5-30 KPa)	30	[15]
CCF@RGO	7.65 (0-3.3KPa), 0.98 (3.3-12.2KPa), 0.24 (12.2-50KPa)	50	[29]
MXene/PEDOT: PSS	754.5 (0-0.8KPa), 177.3 (0.8-3.6KPa), 22.3 (3.6-10.4KPa)	10.4	[38]
MXene/PANI melamine sponge	3.7 (0-2KPa), 18.5 (2-16.3KPa), 7.1 (16.3-28.1KPa)	28.1	[51]
CNT/PDMS composite film	0.1661 (0-18KPa), 0.45743 (18-133KPa), 0.0989 (133-300KPa)	300	[52]
Ag NWs/MXene/non-woven fabric	14.28 (0.25-5KPa), 5 (5-10KPa), 2 (10-20KPa), 0.85 (20-40KPa), 0.2 (40-400KPa)	400	[53]
GO-Ag NF-PI sponge	0.572 (0-10KPa)	10	[54]
MXene/Ag NFs/cotton fabric	1.45 (0-10KPa), 0.67 (10-30KPa), 0.38 (30-60KPa)	60	This work

References:

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