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SUPPORTING INFORMATION

Triboelectric nanogenerator using degradable surface-modified cellulose acetate and ferroelectric gelatin composite nanofiber

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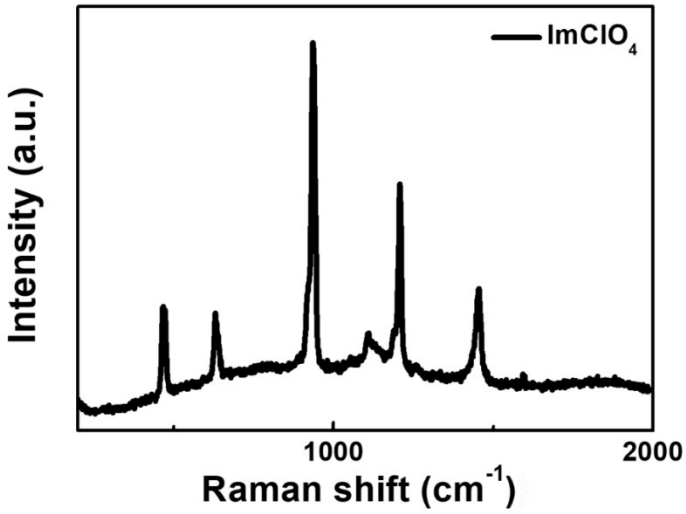


Fig. S1. Raman spectroscopy of $ImClO_4$ crystal

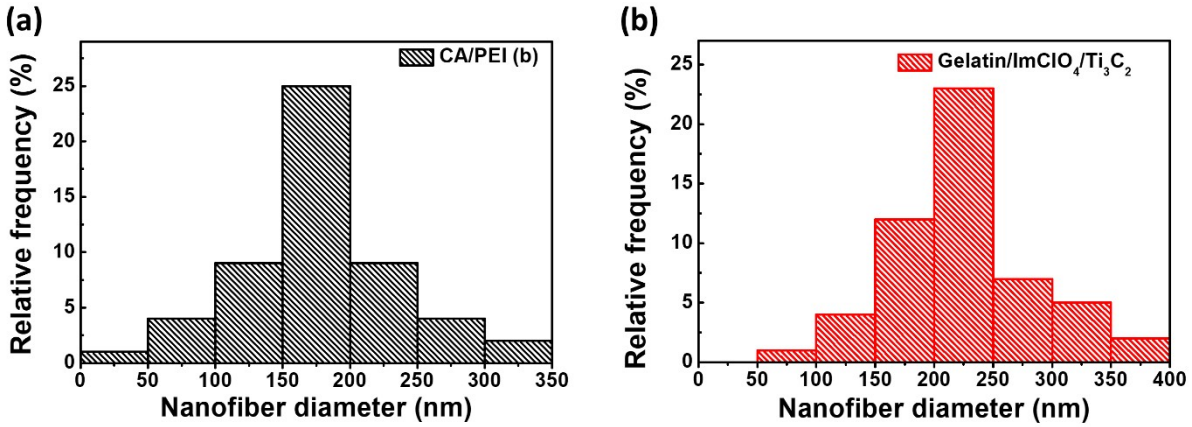


Fig. S2. The statistical diameter size distribution of (a) CA/PEI(b) and (b) gelatin/$ImClO_4$/Ti_3C_2 nanofiber

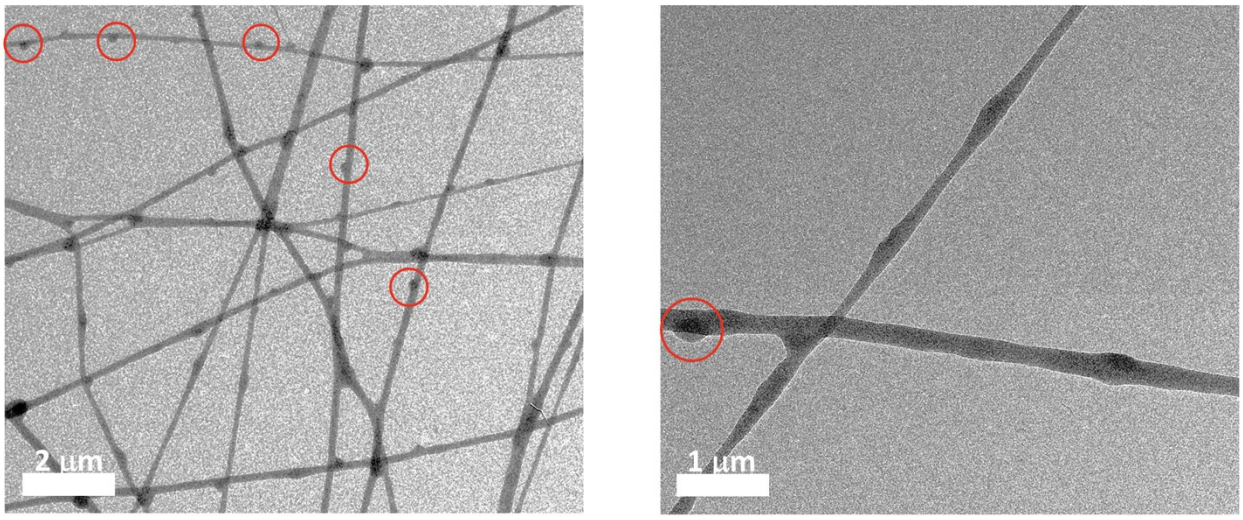


Fig. S3. TEM images of the gelatin/$ImClO_4$/Ti_3C_2 composite nanofiber.

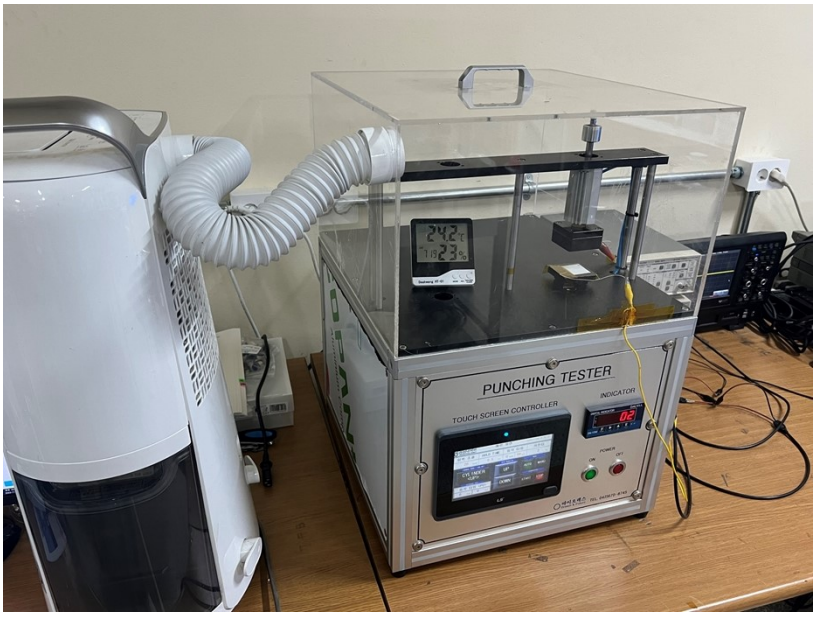
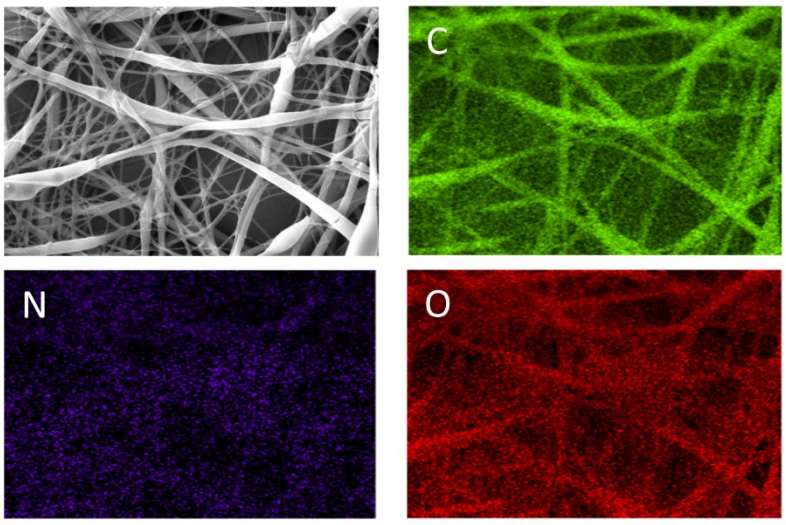


Fig. S4: TENGs measurement setup placed inside the chamber connected to a humidity control system.



Name	C	O	N
Before	61	39	0
After	61	31	8

Fig. S5. Elemental mapping of CA/PEI(b) nanofiber and comparison of EDS analysis before and after surface modification.

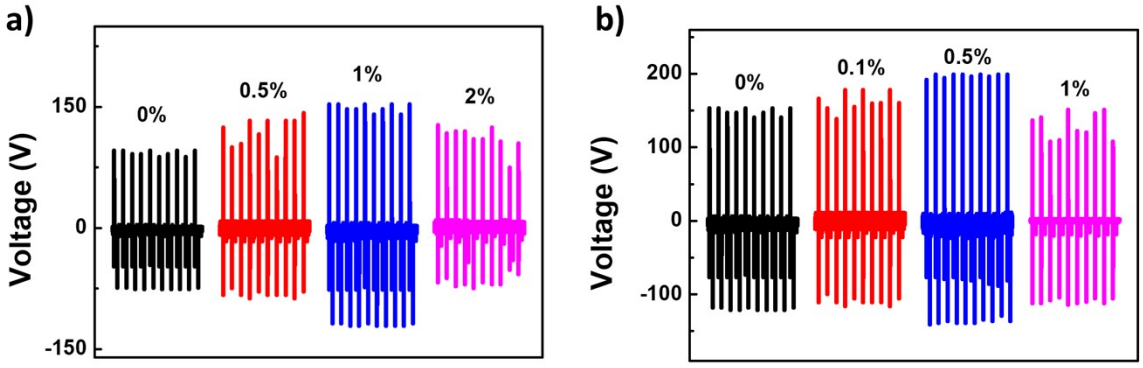


Fig. S6. a) Output open-circuit voltage of TENG measured by contact electrification of gelatin with different wt% of $ImClO_4$ against CA nanofiber. b) Output open-circuit voltage of TENG measured by contact electrification of gelatin/$ImClO_4$ with different wt% of Ti_3C_2 against CA nanofiber.

Table S1 Comparison of current density and power density of the TENG with other works reported previously.

No	Positive	Negative	Voltage (V)	Current density ($\mu A/cm^2$)	Power density ($\mu W/cm^2$)	Reference
1	**CA/PEI(b)**	**Gelatin/$ImClO_4$/Ti_3C_2**	**300**	**10**	**500**	**This work**
2	PLA	Gelatin	500	1.06	100	[32]

3	Gelatin/glycerol	PTFE	58.2	-	-	[43]
4	Gelatin	PTFE/PDMS	130	0.35	45.8	[38]
5	Cellulose paper	Nitrocellulose membrane	60	8.8	83	[42]
6	Cellulose nanocrystal	PTFE	205	18	-	[41]
7	Wheat straw	FEP	250	12	-	[36]
8	Rice paper	PVC	244	6	376.4	[44]
9	Laver	FEP	23	315		[34]
10	Bacterial nanocellulose (BC)	CU	13	-	-	[35]
11	BC	BC/CNT/PPy	29	0.6	3	[37]
12	PLA	PVDF-HFP	140	3.8	75	[40]
13	Wood	PTFE	81	1.8	50	[39]