

연구실명: 나노 에너지 연구실

Nano Energy Science & Engineering Lab (NESEL)

지도교수: 김상우 교수

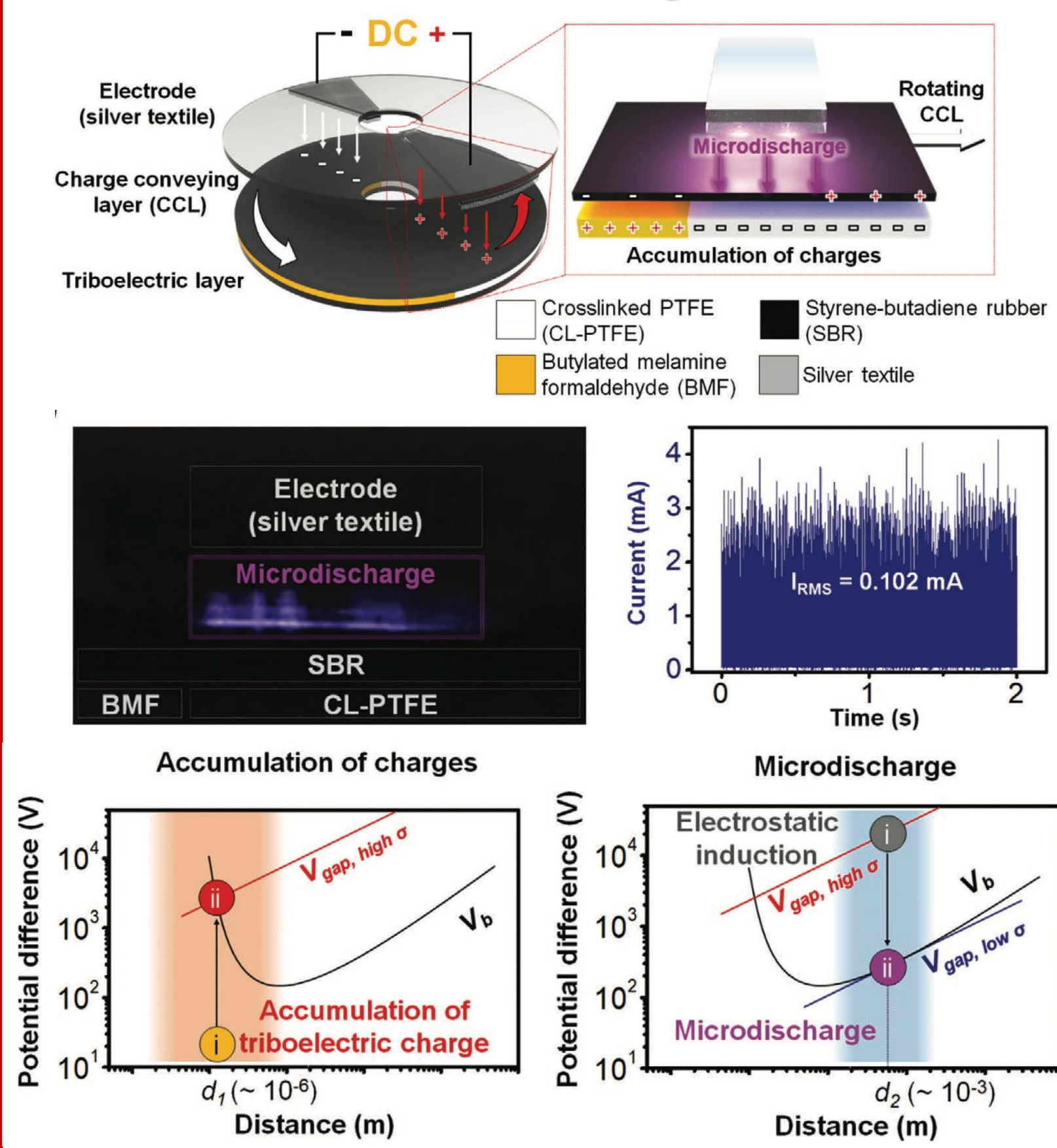
연구분야: 마찰정전기/ 압전 나노제네레이터

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시한성 소재/ 생체친화성 소재/ 2차원 나노소재

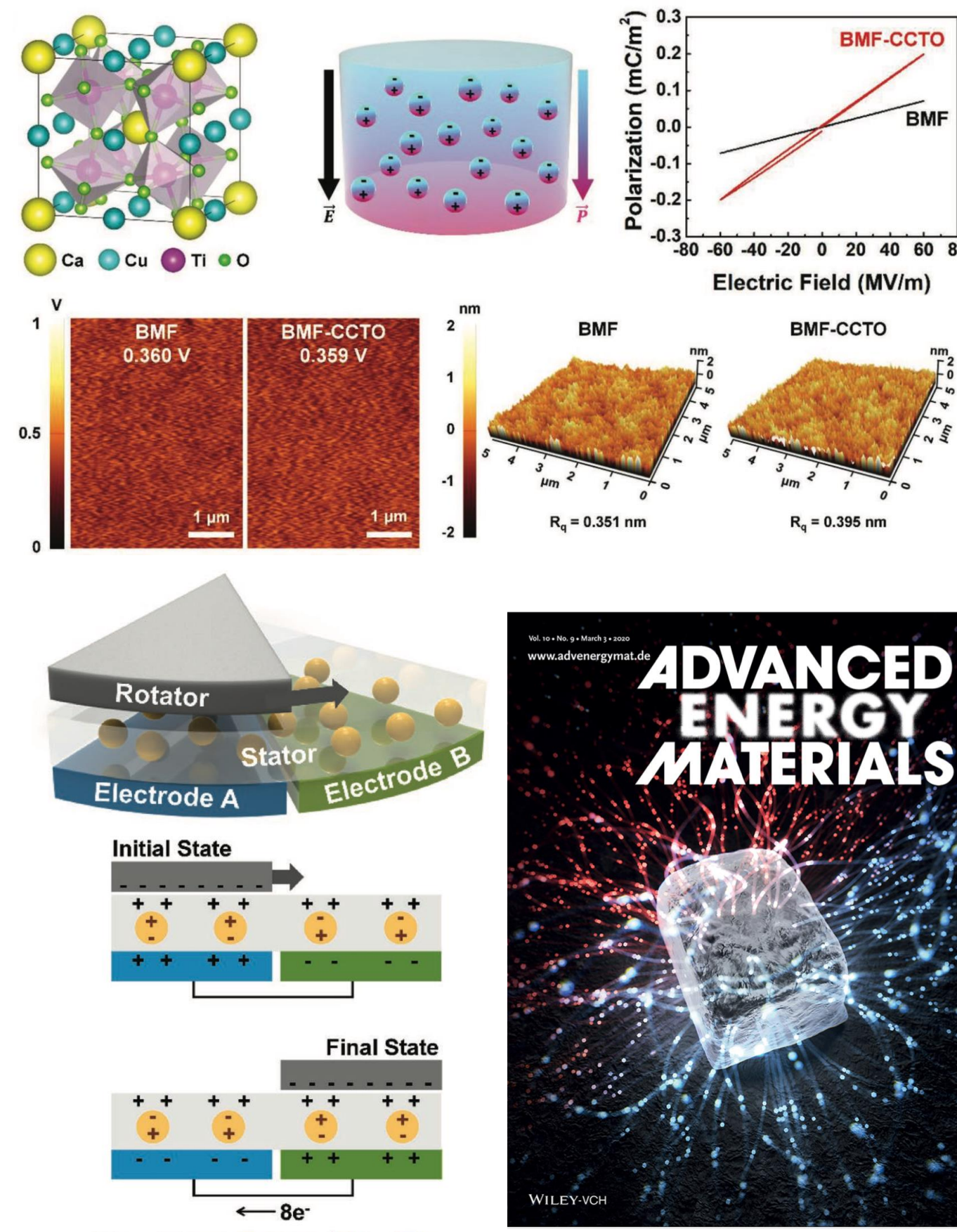
## Triboelectric/Piezoelectric for Energy Harvesting

### Microdischarge-Based Direct Current Triboelectric Nanogenerator



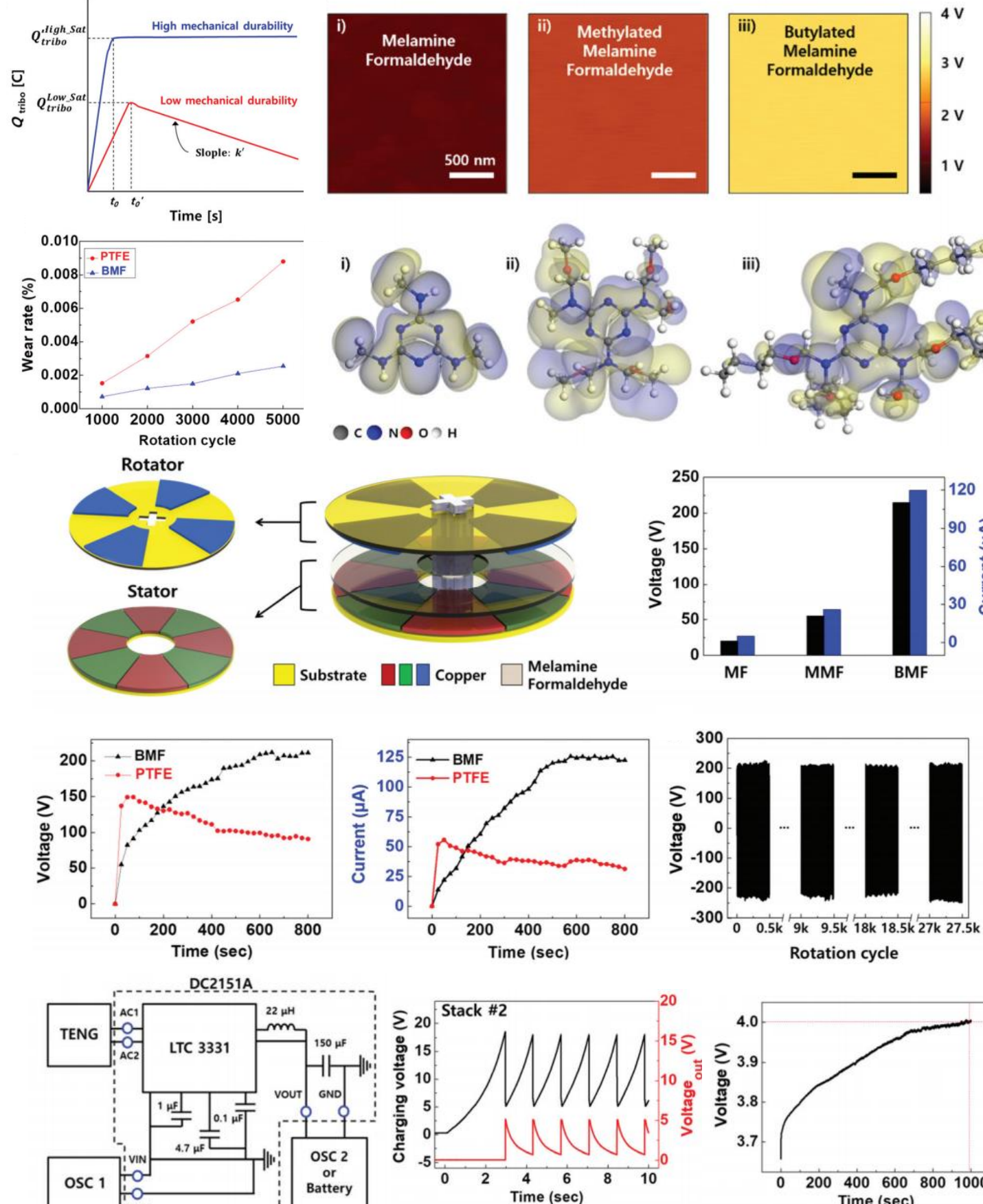
Adv. Energy Mater. 10, 25, 2000730 (2020)

### Ferroelectric Nanocomposite based Triboelectric Nanogenerator



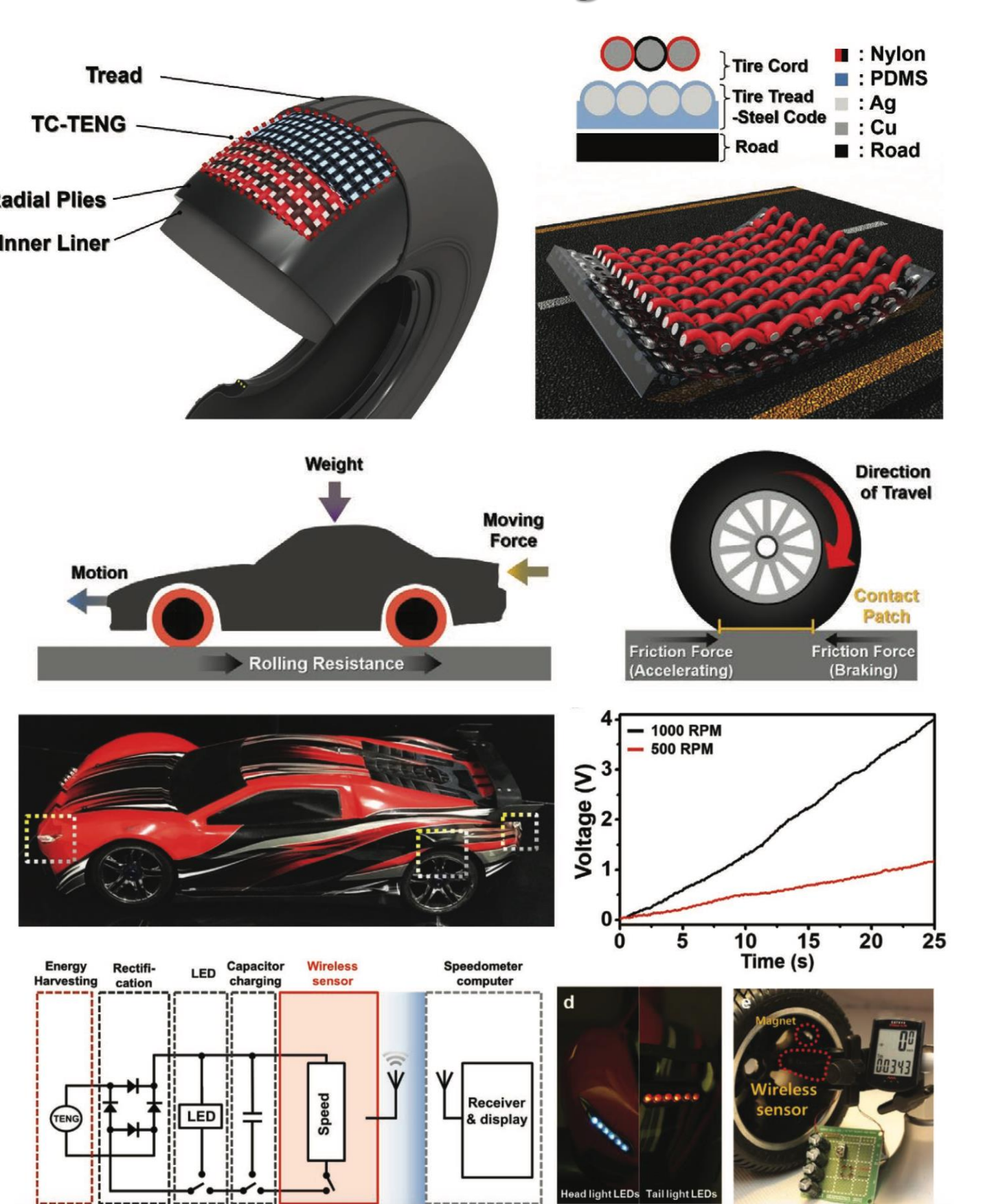
Adv. Energy Mater. 10, 9, 2070040 (2020)

### Stable and High-performance Triboelectric Nanogenerator



Energy Environ. Sci., 12, 3156 (2019)

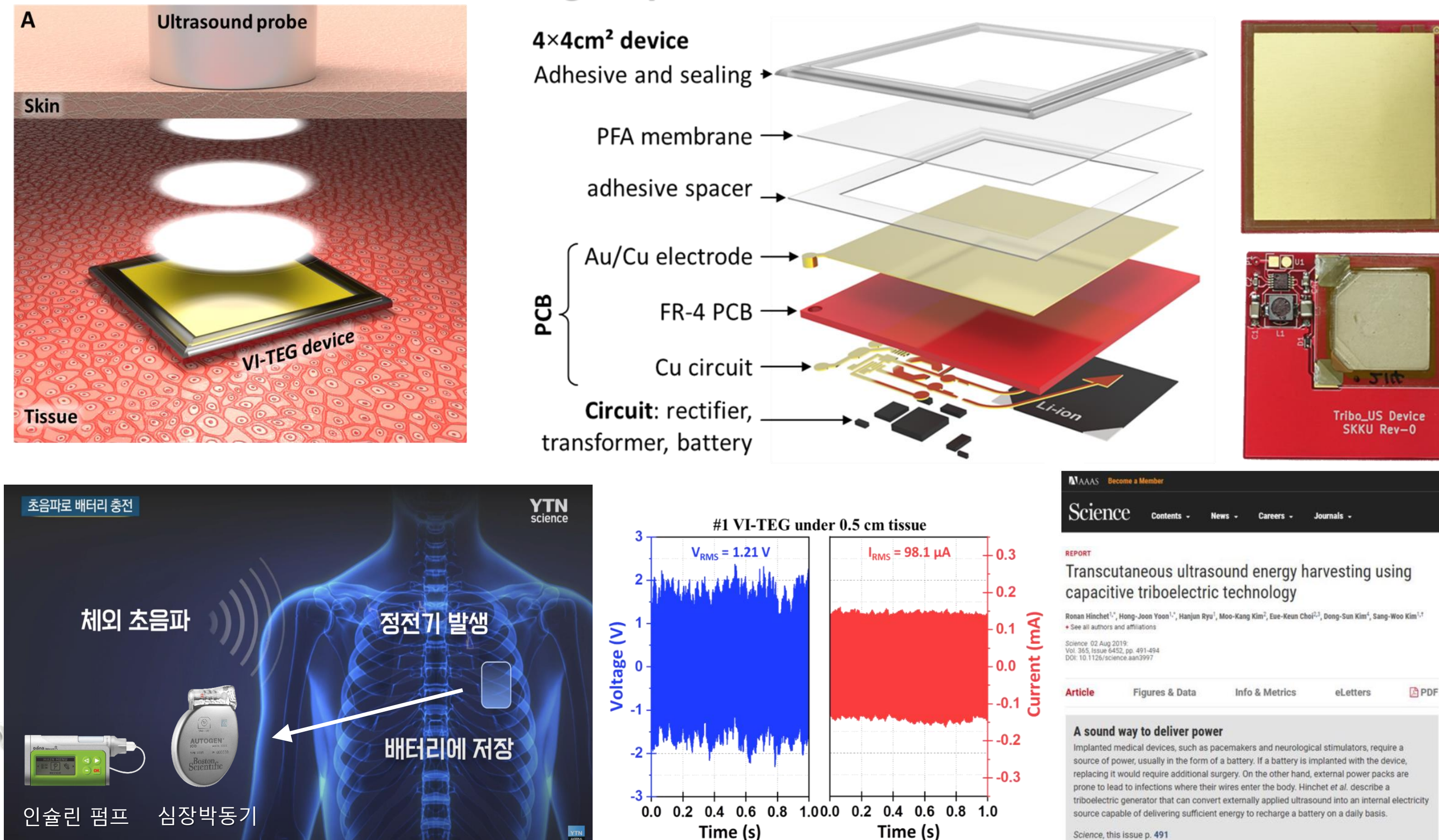
### Textile-Based Tire Cord Triboelectric Nanogenerator



Adv. Funct. Mater. 2002401 (2020)

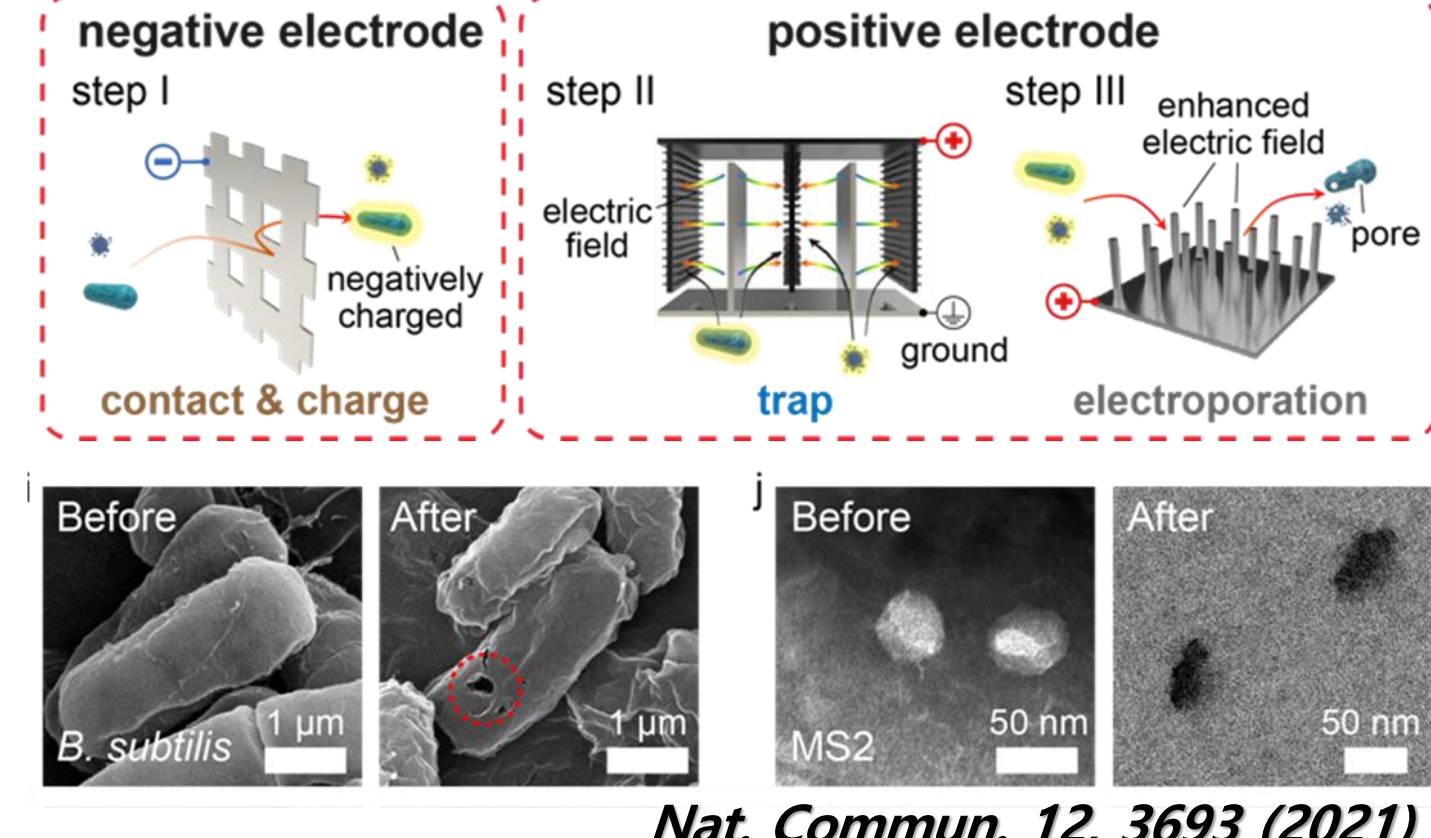
## Implantable/Wearable Devices & Applications

### Ultrasound-Driven Triboelectric Nanogenerator for Powering Implantable Medical Devices



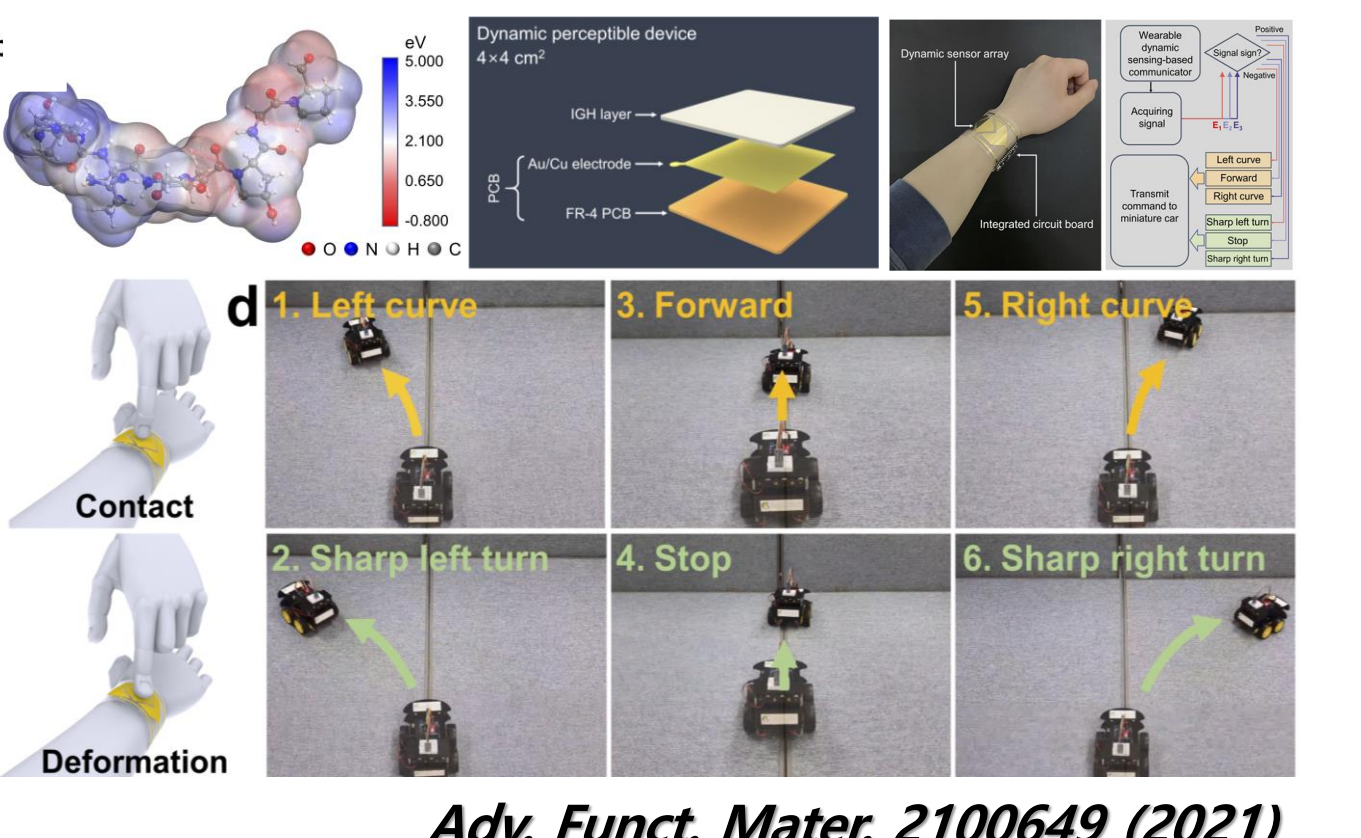
Science 365, 6452, 491-494 (2019)

### Triboelectrification-Induced Virus & Bacteria Disinfection



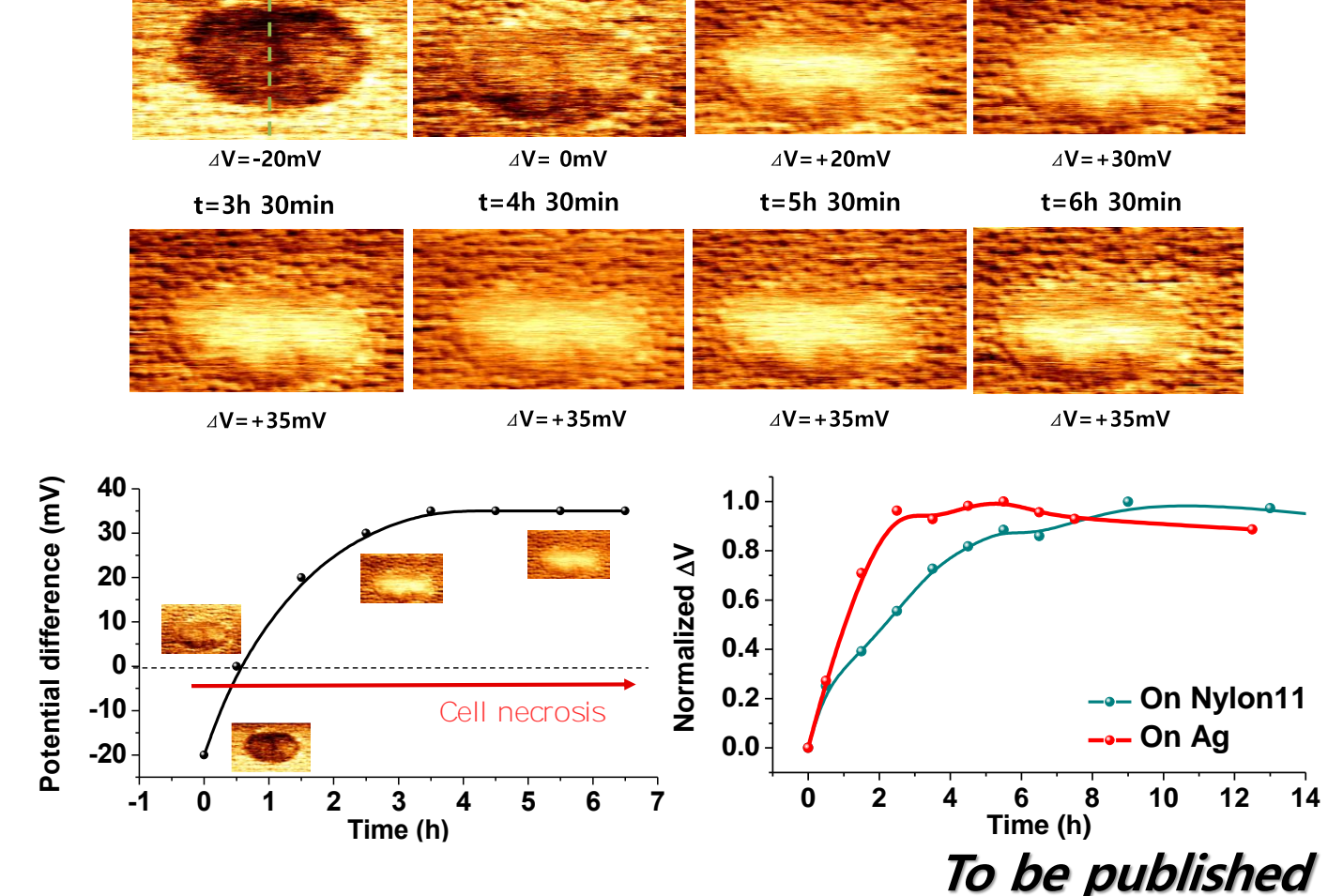
Nat. Commun. 12, 3693 (2021)

### Wearable Communicator Based on Dynamic Perception



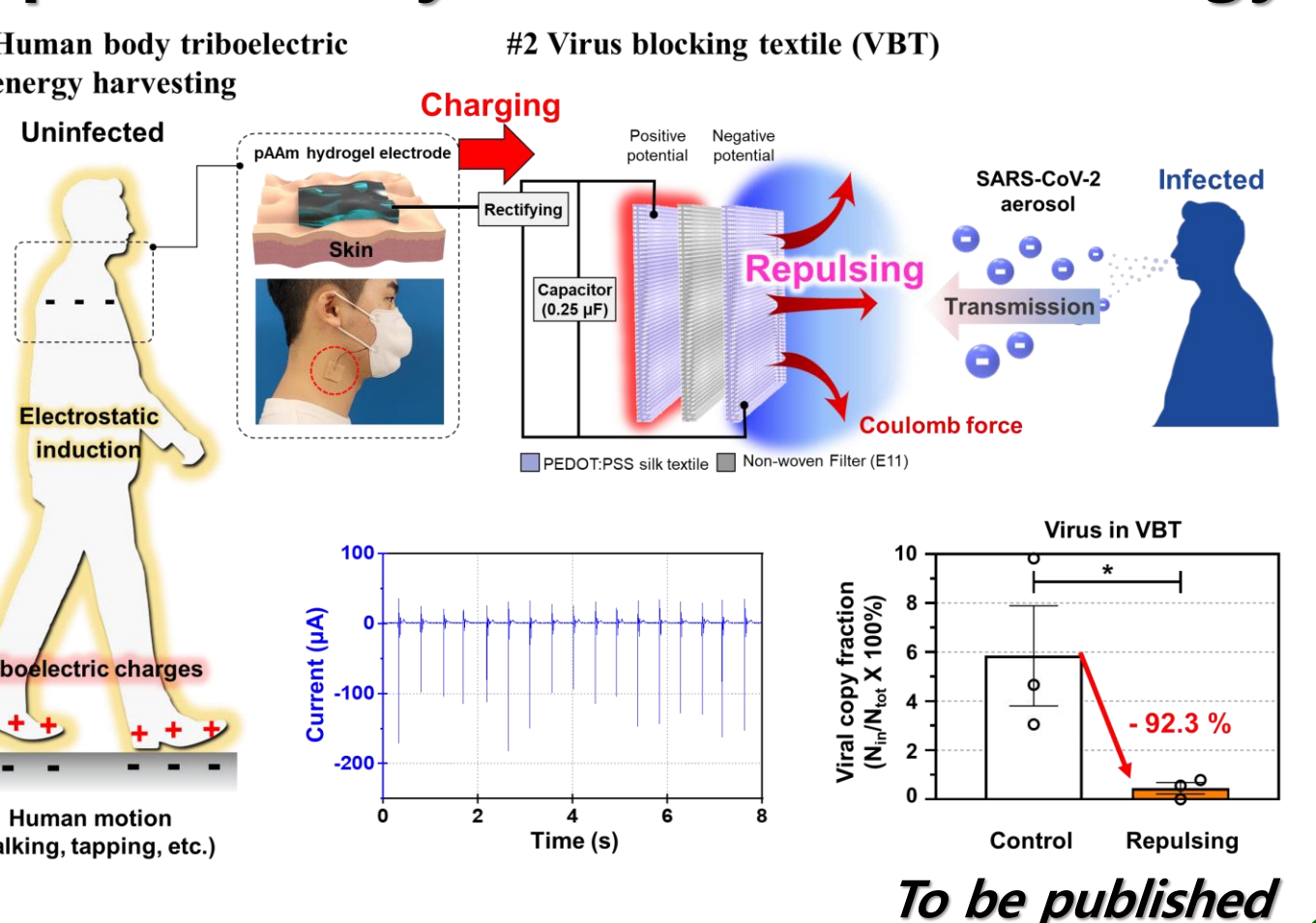
Adv. Funct. Mater. 2100649 (2021)

### Pathogen Surface Potential



To be published

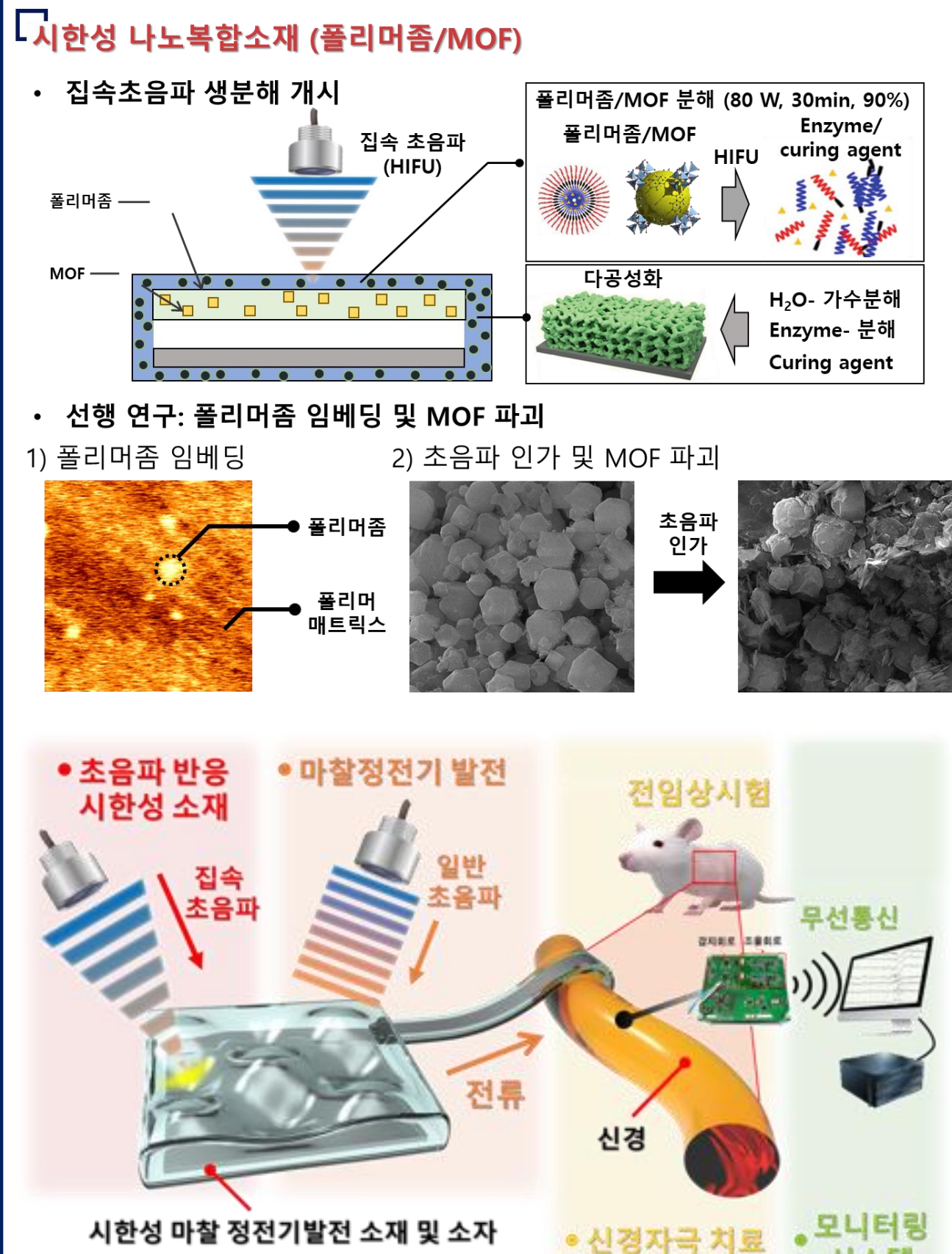
### Virus & bacteria shielding system powered by biomechanical energy



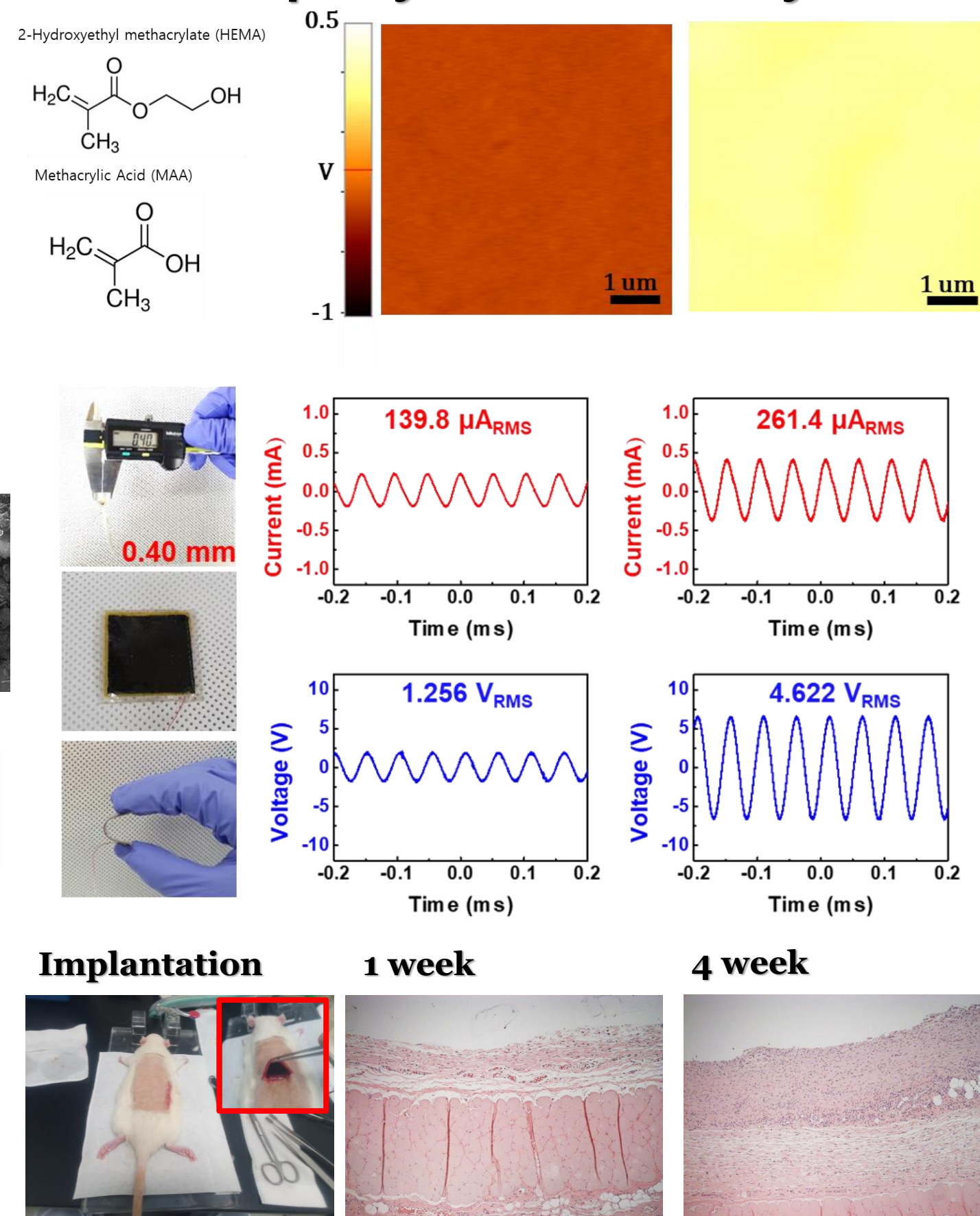
To be published

## Materials Synthesis & Applications

### Transient Composite Nanomaterial-Based Nerve Stimulation Device

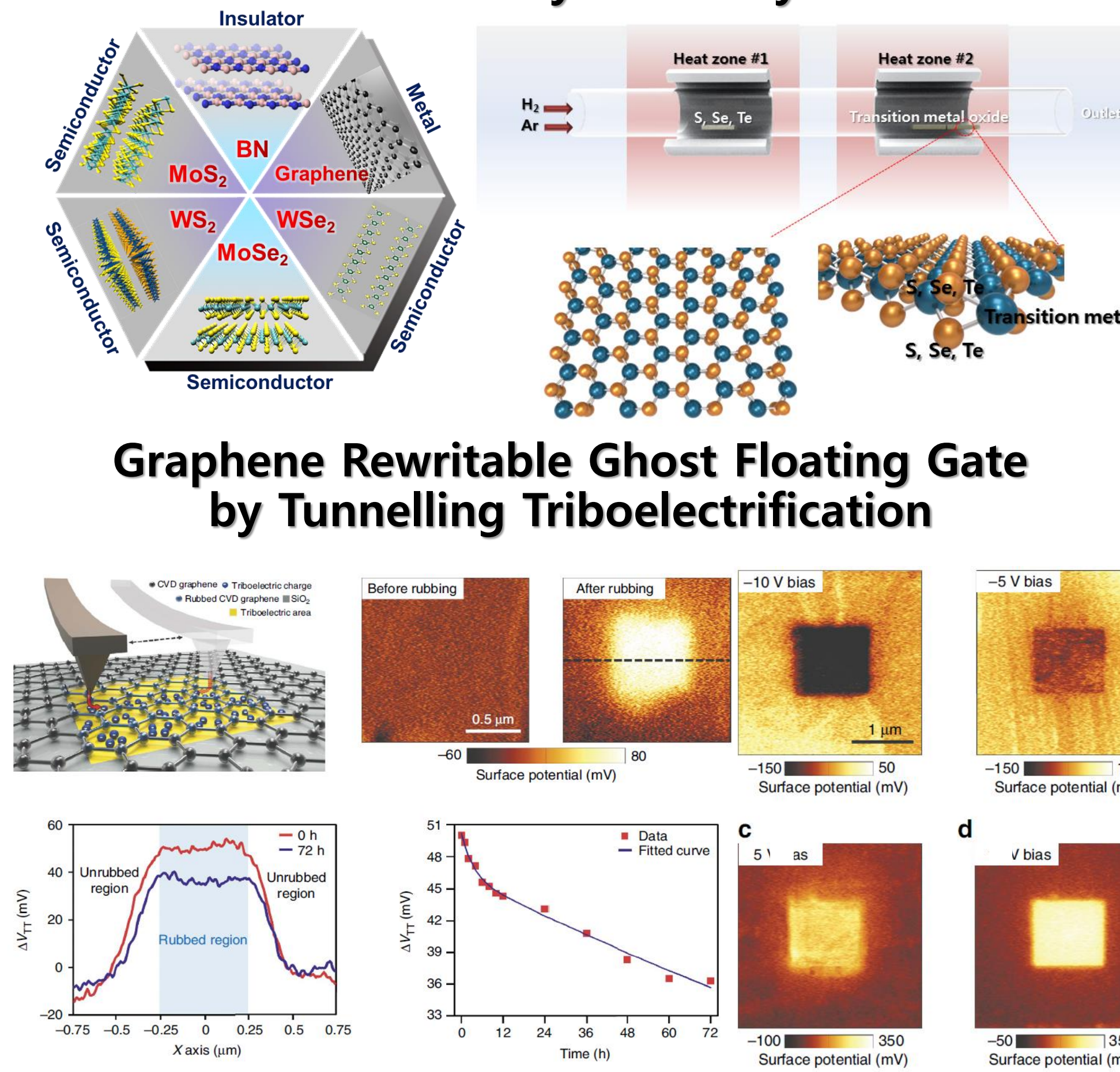


### Biocompatible Hydrogel with Property Controllability



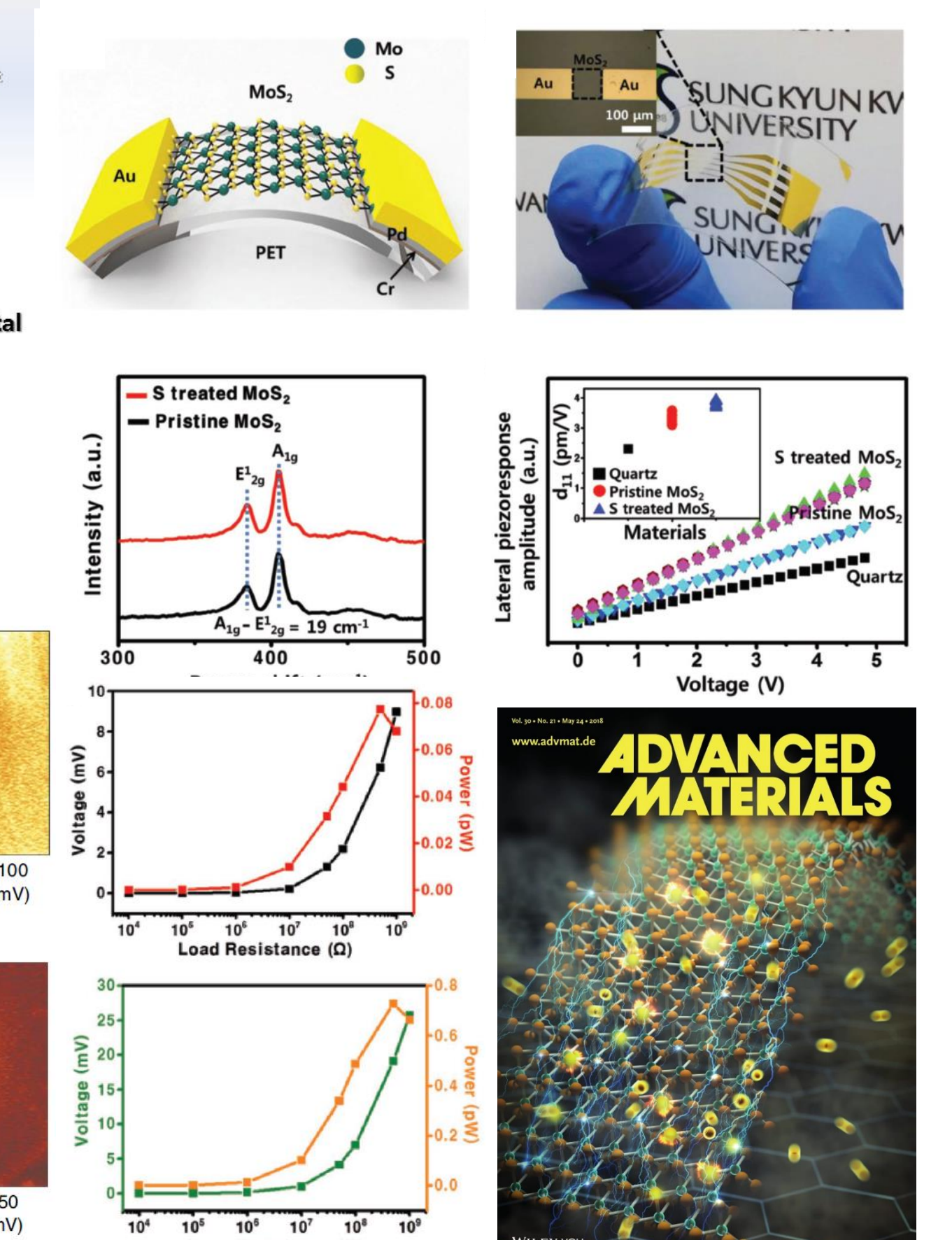
To be published

### 2D Materials Synthesis by CVD



Nat. Commun. 8, 26, 15891 (2017)

### Piezoelectric Nanogenerator Materials



Adv. Mater. 30, 21, 1800342 (2018)