Supporting Information

Highly conductive self-assembled multilayer graphene nanosheet film for electronic tattoos in applications of human electrophysiology and strain sensing

Quan-Liang Zhao,^{†1*} Zhen-Ming Wang,^{†1} Jing-Hao Chen¹, Shi-Qi Liu¹, Yi-Kai Wang¹, Meng-Ying Zhang¹, Jie-Jian Di¹, Guang-Ping He^{1*}, Lei Zhao¹, Ting-Ting Su¹, Jie Zhang¹, Xu Liang¹, Wei-Li Song^{2*} and Zhi-Ling Hou^{3*}

¹School of Mechanical and Materials Engineering, North China University of Technology, Beijing 100144, China

²Institute of Advanced Structure Technology, Beijing Institute of Technology, Beijing 100081, P. R. China

³School of Science, Beijing University of Chemical Technology, Beijing 100029, China

* Authors to whom correspondence should be addressed. E-mail: zql-01@163.com,_ hegp55@126.com, weilis@bit.edu.cn, houzl@mail.buct.edu.cn

Quan-Liang Zhao and Zhen-Ming Wang contributed equally to this work.

1. Preparation of the graphene nanosheets (GNs)

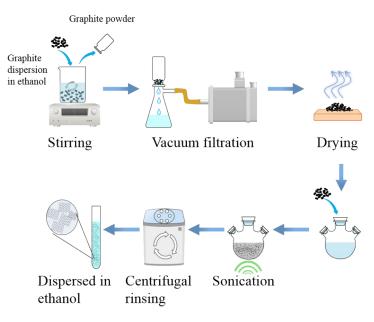
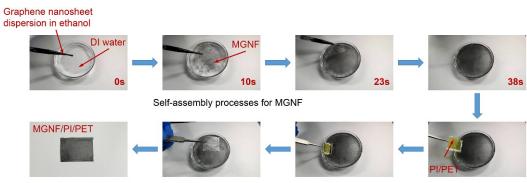


Fig. S1 Preparation of the graphene nanosheets.



2. Self-assembly process for the multilayer graphene nanosheet film (MGNF)

After drying at 80°C for 30 min

Fig. S2 Self-assembly process for the multilayer graphene nanosheet film.

3. Power spectral density (PSD) of ECG signals

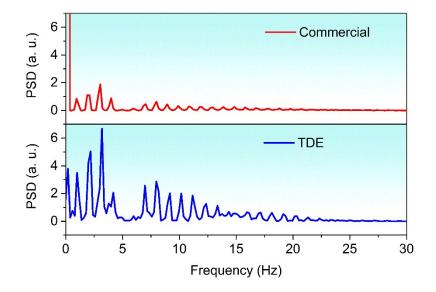


Fig. S3 PSD of ECG signals measured by TDE and commercial Ag/AgCl gel electrodes. The TDEs have the enhanced PSD intensity in 0-20 Hz frequency range, which is wider than about 0-10 Hz of Ag/AgCl gel electrodes. In addition, there is not any frequency fluctuations below 2 Hz for the TDEs and it is helpful for detecting ECG more accurately.