

Supporting Information

Self-healing Graphene -Thermopolyurethane Flexible Conductive Films

Ke Wang^{1,*}, Zhimin Zhou^{1,2}, Jiahao Zhang¹, Jinyuan Tang¹, Peiyu Wu¹, Yuehui Wang^{1,2,*}, Yuzhen Zhao³, and Yong Leng⁴

¹ Zhongshan Institute, University of Electronic Science and Technology of China, Zhongshan, Guangdong Province, P. R. China; Post Code: 528402; wkzsedu@126.com (K.W.); zjhzsedu@126.com (J. Z.) ; tjyzsedu@126.com (J. T.); wpyzsedu@126.com (P.W.); wangzsedu@126.com (Y.W.)

² University of Material and Energy, University of Electronic Science and Technology of China, Chengdu 610054, China

³ Department of Materials Science and Engineering, Tsinghua University, Beijing, P. R. China; Post Code: 100084; zhaoyz@mail.tsinghua.edu.cn (Y. Z.)

⁴ Zhongshan Breathtex Speciality Material Co.,Ltd. Zhongshan, Guangdong Province, P. R. China; Post Code:528441. lybreathtex@126.com (Y.L)

* Correspondence: wangzsedu@126.com; Tel.: +86-760-8832-5402

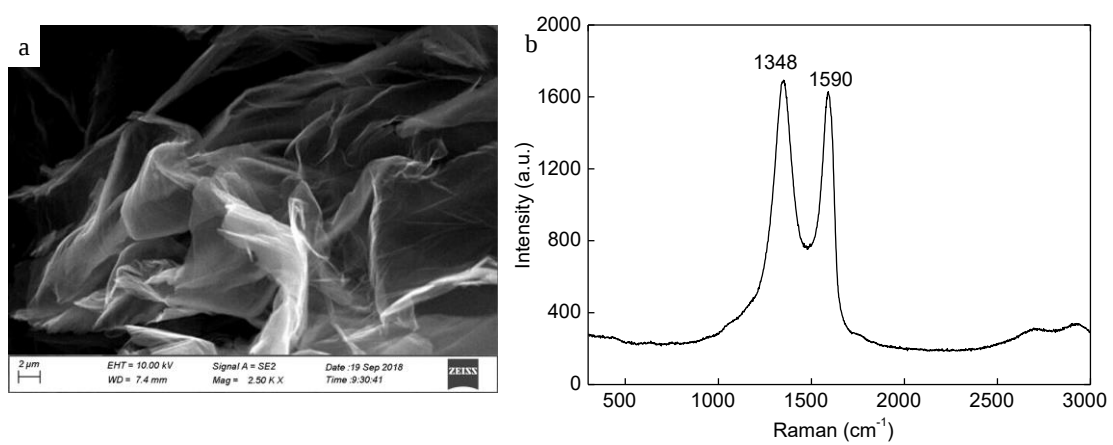


Figure S1 SEM image (a) and Raman spectrum (b) of graphene

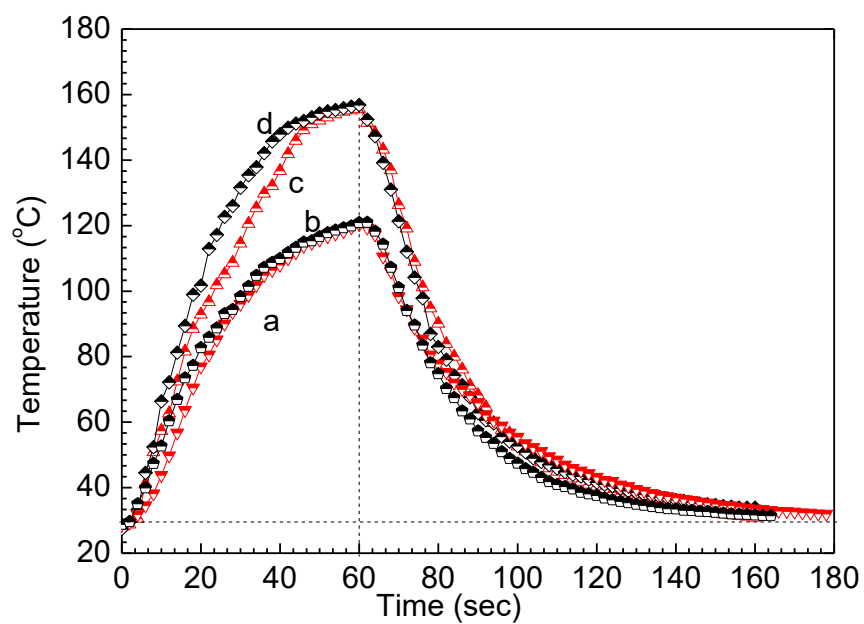


Figure S2 Time-dependent temperature of the composite films with the mass contents of 0.5 wt% (a, b), and 4.0 wt% (c, d), respectively, and the initial concentration of TPU of 20 % (a, c) and 30% (b, d) via IR light

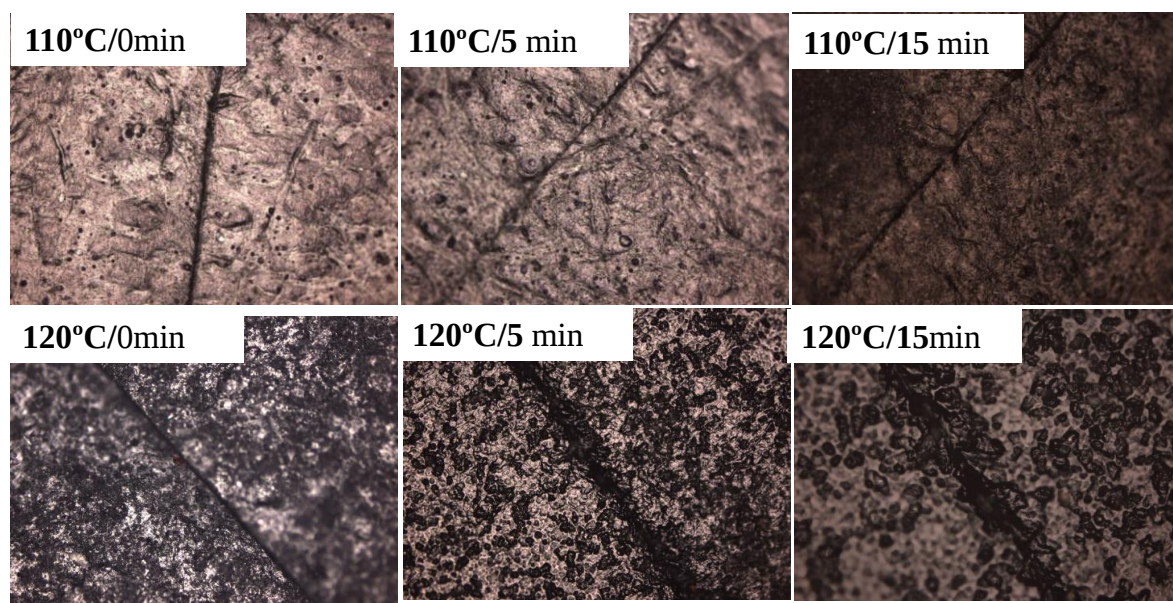


Figure. S3 Optical images of the scratch sample healed at 110 °C and 120 °C for different time using electricity.