Electronic Supplementary Material (ESI) for Journal of Materials Chemistry

Graphene/polyaniline nanorod arrays: Synthesis and excellent electromagnetic absorption properties

Hailong Yu,[a] Tieshi Wang,[a] Bo Wen,[b] Mingming Lu,[b] Zheng Xu,[a] Chunling Zhu,[a] Yujin Chen,*[a] Xinyu Xue,*[c] Chunwen Sun*[d] and Maosheng Cao[b]

[a] *College of Science, Harbin Engineering University, Harbin 150001, China,*

[b] *School of Materials Science and Engineering, Beijing institute of Technology,Beijing 100081, China,*

[c] *College of Sciences, Northeastern University, Shenyang, 110819, China*

[d] *Key Laboratory for Renewable Energy, Chinese Academy of Sciences; Beijing Key Laboratory for New Energy Materials and Devices; Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, Chinese Academy of Sciences, Beijing, 100190, China*

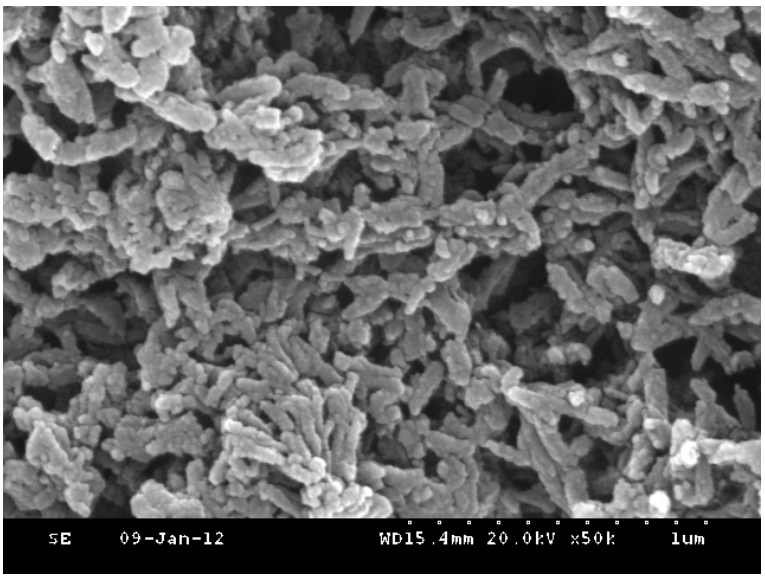

Fig. S1 SEM image of PANI nanorods

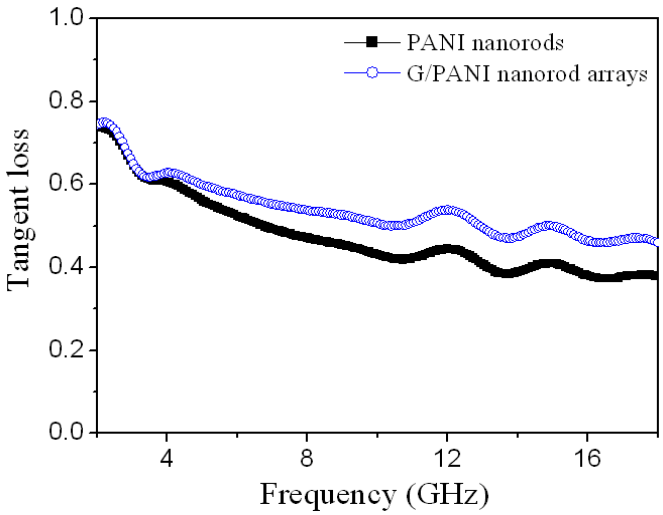

Fig. S2 The tangent loss of G/PANI nanorod arrays and PANI nanorods.

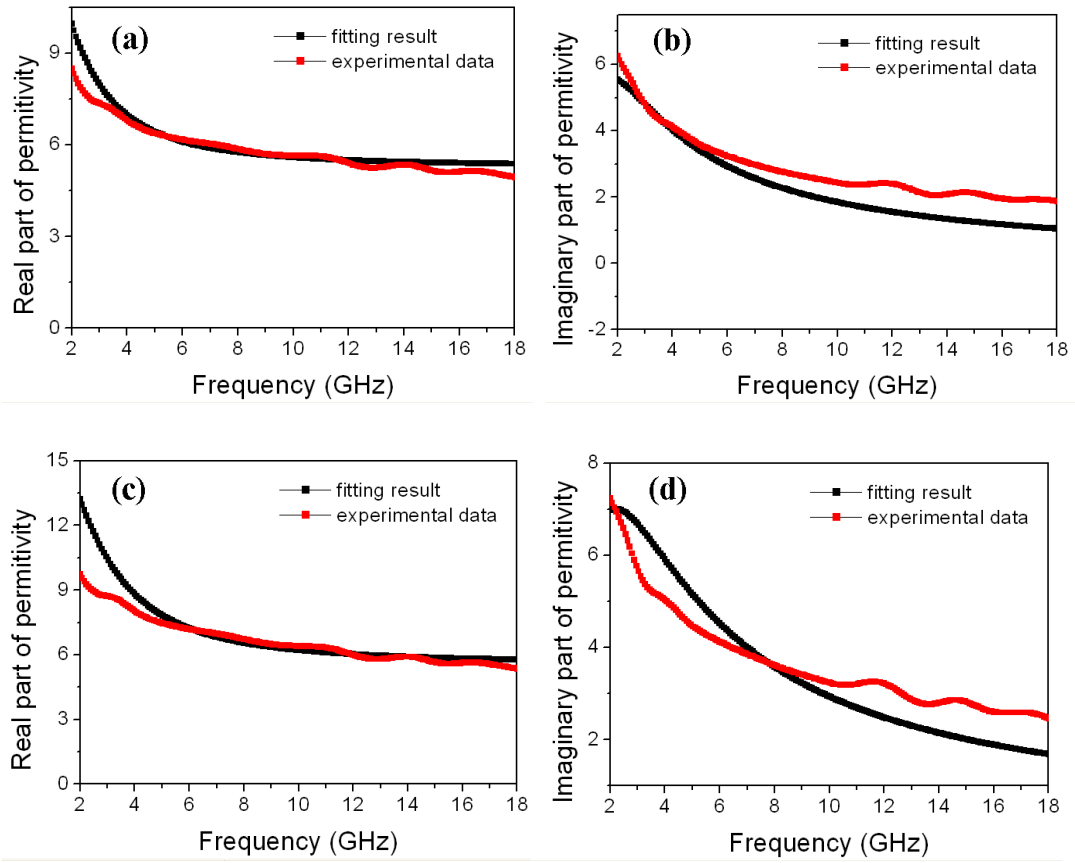

Fig. S3 The theoretical simulation results for the relative complex permittivity. (a) Real part of the relative complex permittivity of PANI nanorods, (b) imaginary part of the relative complex permittivity of PANI nanorods, (c) real part of the relative complex permittivity of G/PANI nanorod arrays, and (d) imaginary part of the relative complex permittivity of G/PANI nanorod arrays.

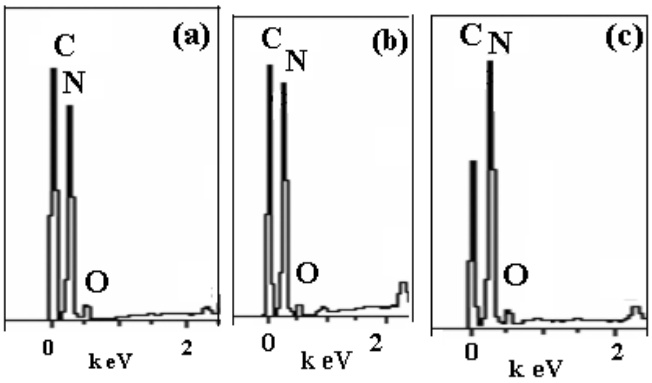

Fig. S4 EDS patterns of G/PANI nanocomposites with different added amount of aniline into the reaction system. (a) 0.1 mL, (b) 0.2 mL and (c) 0.4 mL.

The EDS analyses of different samples were performed six times at different places, and the molar ratios of graphene to aniline were determined by calculating the mean value of the obtained results.