Supplementary Material

Low-frequency noise reduction in laser-induced graphene devices by noble metal nanoparticles decoration

Katarzyna Drozdowska-Czubek[1,*], Janusz Smulko[1]

[1]*Department of Metrology and Electronic Systems, Faculty of Electronics, Telecommunications, and Informatics, Gdańsk University of Technology, G. Narutowicza 11/12, 80-233, Gdańsk, Poland*

*Corresponding author – katarzyna.drozdowska@pg.edu.pl

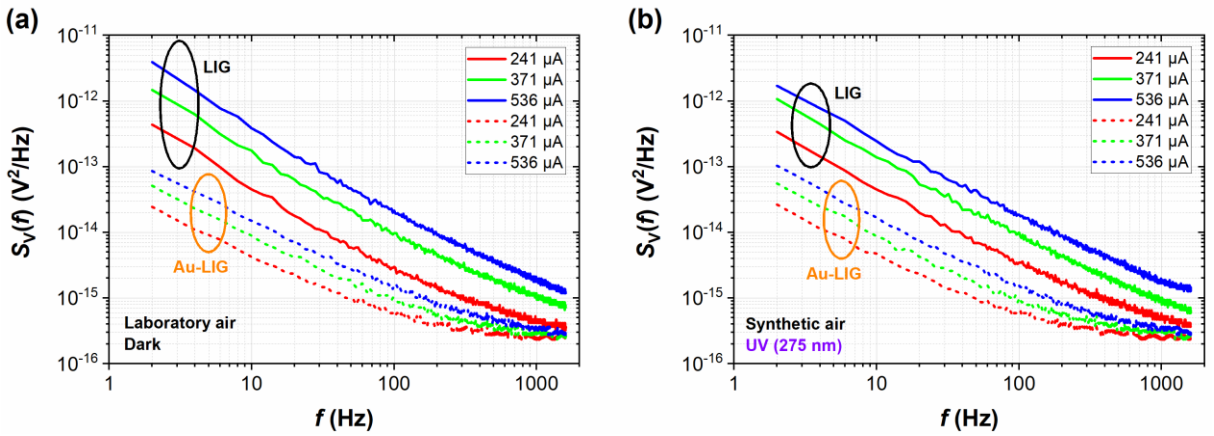

Figure S1. Power spectral density of voltage fluctuations $S_V(f)$ measured at selected currents (241–536 µA) for non-decorated and Au-decorated LIG samples in **(a)** laboratory air in the dark or **(b)** synthetic air under UV light (275 nm) illumination. The noise spectra for Au-LIG were collected with a 10 µl-portion of AuNPs dispersion deposited on the LIG surface.

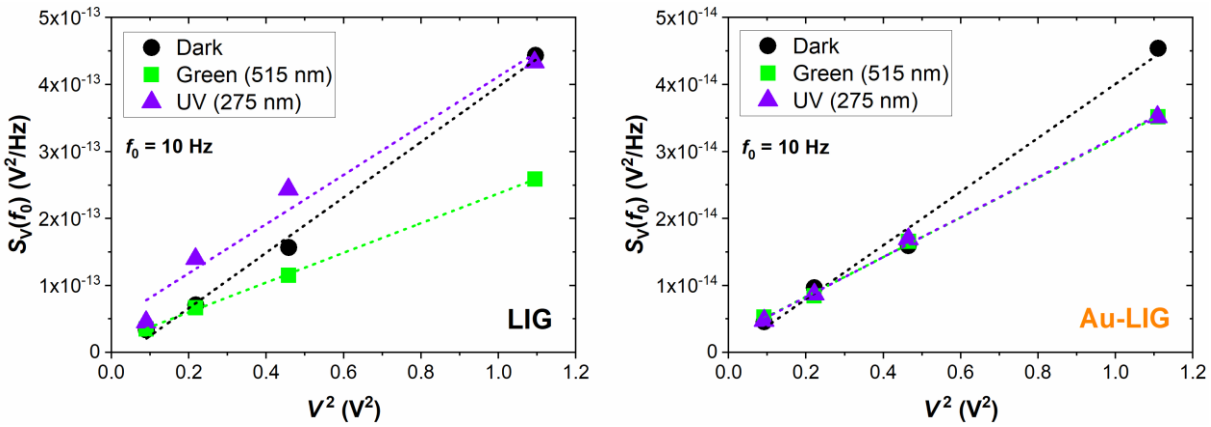

Figure S2. Power spectral density of voltage fluctuations $S_V(f_0)$ at frequency f_0 = 10 Hz measured at selected currents (241–828 μA) for **(a)** non-decorated and **(b)** Au-decorated LIG samples in the dark, under green light (515 nm) or UV light (275 nm) illumination. The noise features for Au-LIG were extracted from spectra measured for the 10 μl-portion of AuNPs dispersion deposited on the LIG surface.

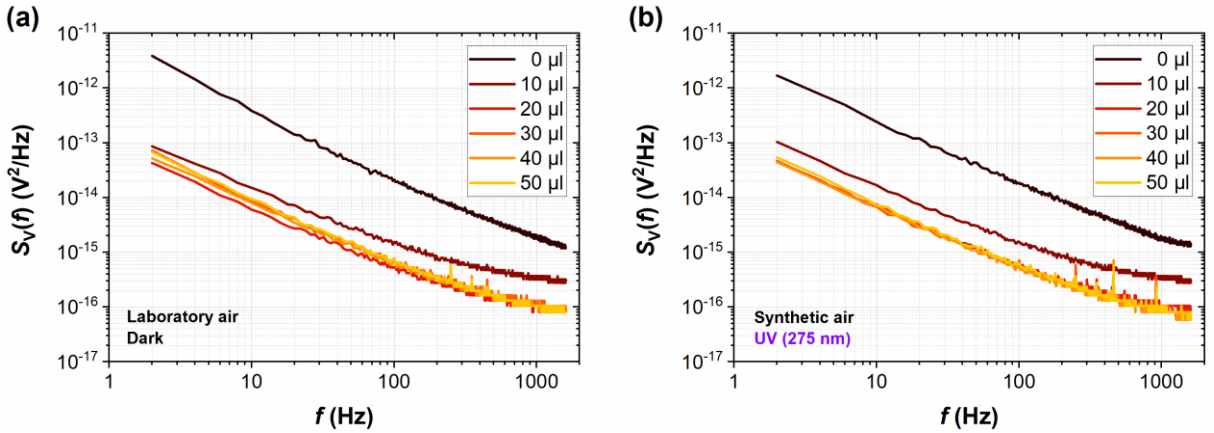

Figure S3. Power spectral density of voltage fluctuations $S_V(f)$ measured at 536 µA input current for LIG samples decorated with AuNPs solution of increasing volume in **(a)** laboratory air and in the dark or **(b)** synthetic air under UV light illumination (275 nm).

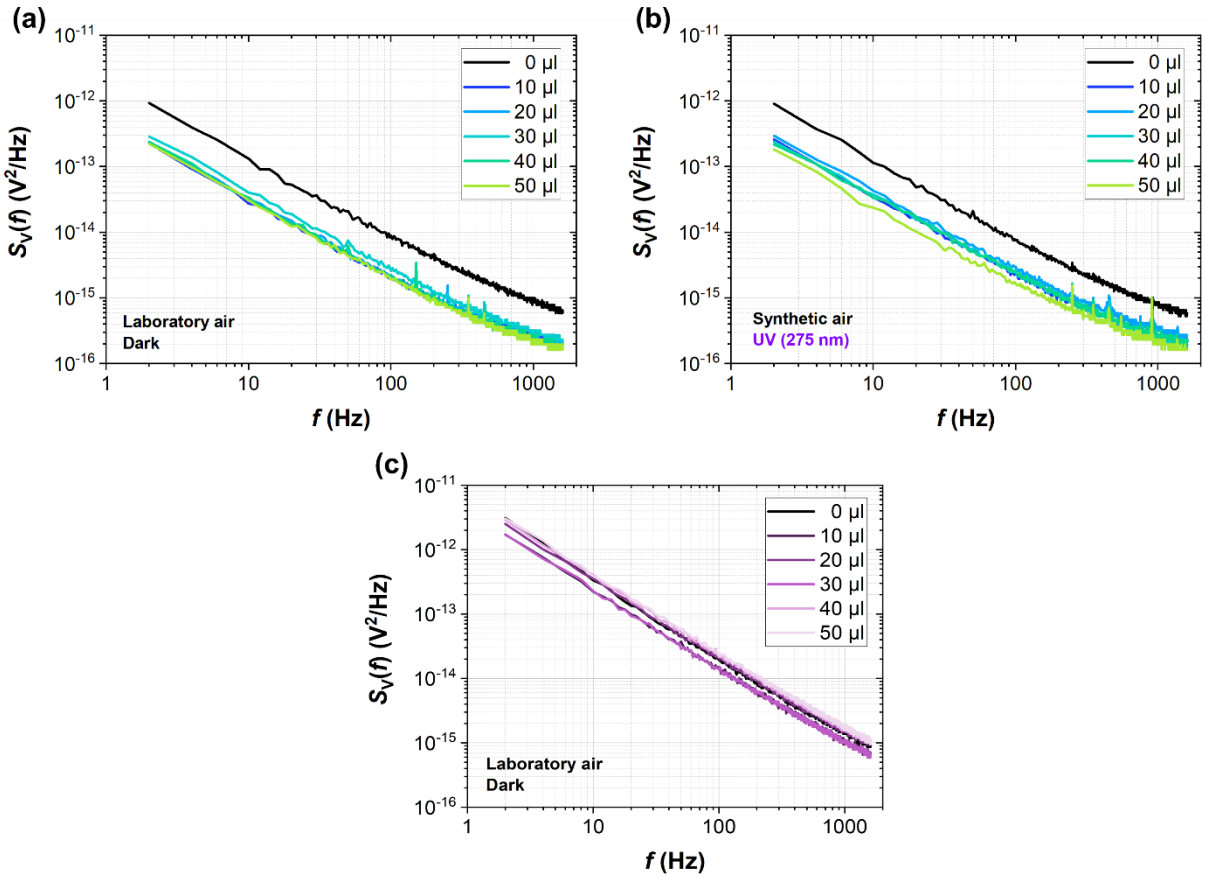

Figure S4. Power spectral density of voltage fluctuations $S_V(f)$ measured at 536 µA input current for LIG samples decorated with AgNPs solution of increasing volume in **(a)** laboratory air and in the dark or **(b)** synthetic air under UV light illumination (275 nm), and with PtNPs solution of increasing volume in **(c)** laboratory air in the dark.