Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Information

Stable and reversible doping of graphene by using KNO_3 solution and photo-desorption current response

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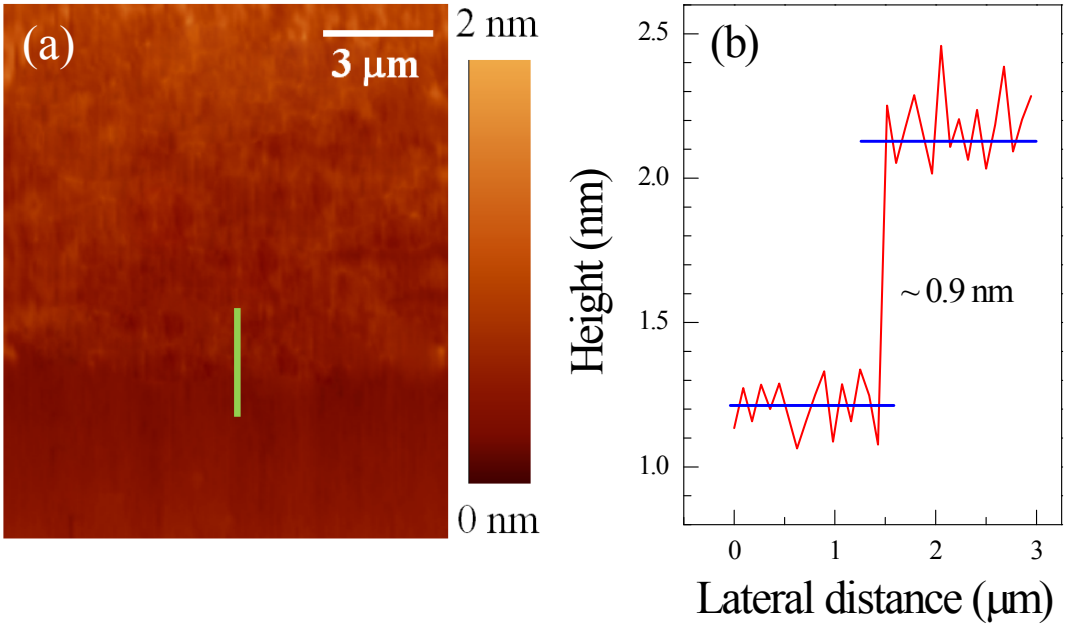

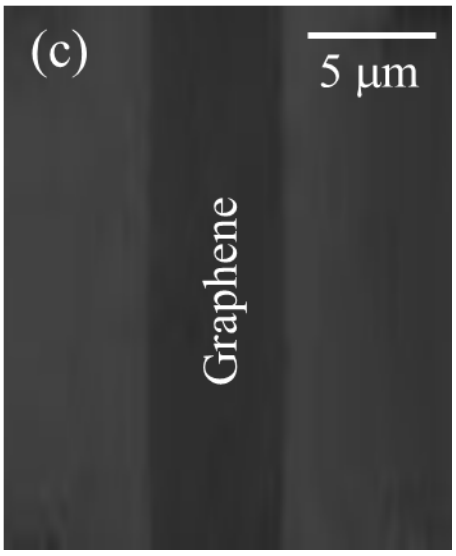

Figure S1. (a) The atomic force microscopic image of pristine CVD-grown graphene. (b) The thickness profile along the green line in (a). (c) SEM image of CVD-grown graphene channel in the device.

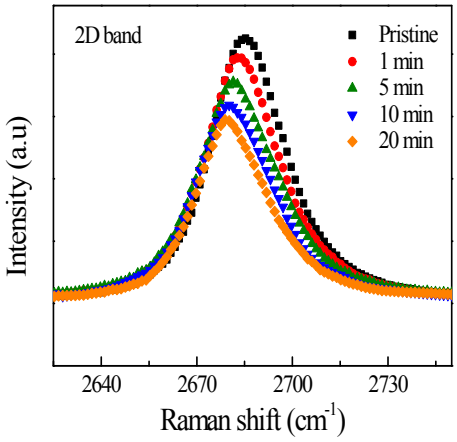

Figure S2. Zoom-in spectra of 2D band of pristine and doped graphene (Device-1) for different time.

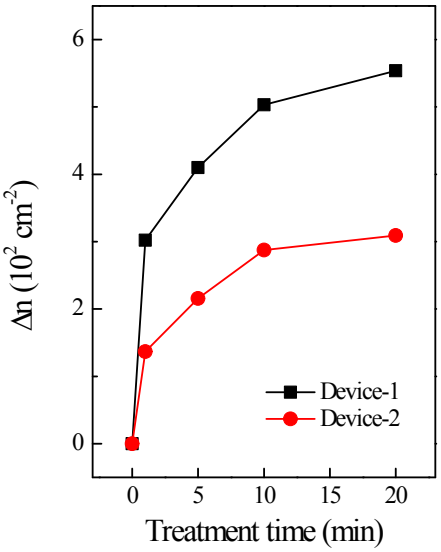

Figure S3. Change of charge carrier density (Δn) as a function of treatment time for CVD-grown graphene (Device-1& Device-2).

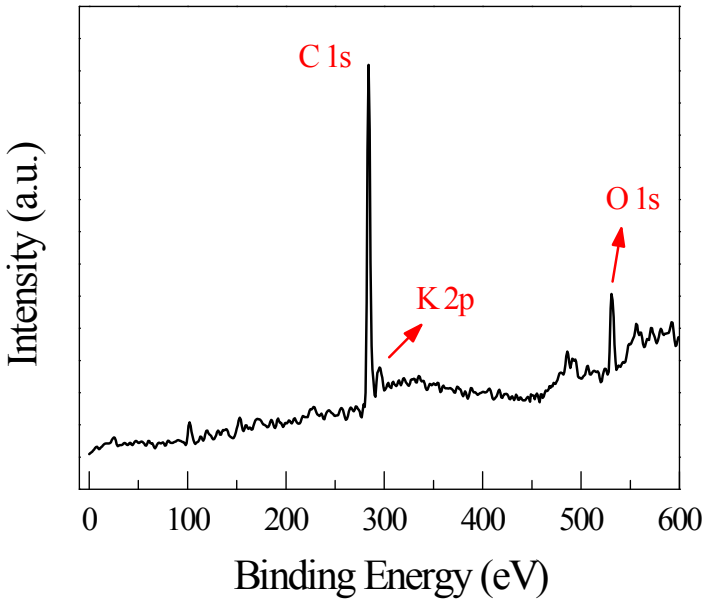

Figure S4. XPS spectra of CVD-grown graphene doped by KNO_3 solution for 20 min..

Device-4	Pristine	Doped (20 min)	After 2 months	Annealed
Electron mobility (cm^2/Vs)	1304	2950	2782	896
Hole mobility (cm^2/Vs)	1451	3024	2827	1303

Table 1. The electron and hole mobilities of pristine, doped, after 2 month and annealed CVD-grown graphene (Device-4).