Supplementary Data

Figure S1: Micrographs of graphene deposited for 30 minutes from an aqueous graphene oxide suspension (1mg/mL) applying -1.2V: (a) = 5x magnification, (b) = 50x magnification

Figure S2: Cyclic voltamograms of GO$_{0.5mg/mL}$/NaCl$_{0.25M}$ suspensions at different pH.
**Figure S3:** Deposition current measured after applying increasing reduction potentials (-0.8V to -1.6V) of GO\(_{0.5mg/mL/NaCl0.25M}\) suspensions at different pH. The current drop indicated graphene deposition which starts at -1.0V for acidic (pH = 4.5: red) and basic suspensions (pH = 9.5: blue) while neutral suspensions (green) show deposits at potentials exceeding -1.2V.

**Figure S4:** Raman spectra of graphene deposited from suspensions of various pH levels. The fact that the D band is more intense than the G band indicates that the deposits are a reduced form of graphene oxide (e.g. graphene) over all pH ranges.
Figure S5: XRD of graphene oxide and graphene deposited at pH 7.0 applying -1.2 V. The disappearance of the (0 0 2) diffraction indicates the successful reduction of graphene oxide.

Figure S6: Raman spectra of graphene deposited from suspensions and then post-reduced as discussed in the text. The same protocol was applied to electrodes which were precoated with GO and then post-reduced. Again the intensity of the D dominates over the G band indicating the presence of graphene.