On the Improved Electrochemical performance of Cross-linked 3D Graphene Nanoribbon Monolith Electrodes

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Figure S1. XRD of 3D GONRs (Cu K\(\alpha\) \(\lambda=1.5418\) Å), showing the (002) plane of graphite at \(\sim10^\circ\).

Figure S2. High resolution C1s XPS spectra of 3D GONRs and 3D GNRs. The reduction of functional groups in 3D GNRs is evident from the spectrum.
Figure S3. Showing the BET isotherm and surface area calculations of GNRs.
Figure S4. The BET adsorption isotherm and BJH pore size/adsorption surface area plot for 3D GNRs.
Figure S5. Plot of peak current vs. square root of scan rate for the (left) 3D GNRs, and (right) GNRs in 5.0mM Ru(NH$_3$)$_6^{3+}$/$^{2-}$/1.0 M KCl. Porous materials undergo thin layer diffusion rather than linear diffusion, and the thin layer diffusion may lead to the lowering of peak potential difference. In order to confirm this, cyclic voltammetry at different scan rates are performed and the $i_p$ vs (scan rate)$^{1/2}$ is plotted. These plots indicate that both GNRs and 3D GNRs are undergoing semi-infinite linear diffusion.