## Supporting information

## Hybrid Graphene Oxide/Laponite Layered Membranes with Stable Two-Dimensional Nanochannels for Efficient Separations in Aqueous Environments

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## Supplementary Figures S1-S6



**Figure S1.** (a) AFM image of GO nanosheets. The inserted height profile in AFM image is taken along the red line. (b) XPS high-resolution C1s spectra of GO nanosheets.



**Figure S2.** Optical images of GO/laponite solutions with different  $R_{L/GO}$  values.



**Figure S3.** Optical images of GO/L membranes with different  $R_{L/GO}$  values. (a) GO, (b)  $R_{L/GO}=1$  wt%, (c)  $R_{L/GO}=5$  wt%, (d)  $R_{L/GO}=20$  wt%, (e)  $R_{L/GO}=50$  wt%, (f) Laponite.



**Figure S4.** UV-vis absorption spectra of dye aqueous solutions before and after the adsorption experiments using the GO/L membranes with  $R_{L/GO}=50$  wt%. The adsorption time is 1 day. (a) Basic fuchsine, (b) brilliant yellow.



**Figure S5.** The permeabilities and dye rejections of the GO/L membranes with  $R_{L/GO}=50$  wt% but with different loadings of GO and laponite nanosheets. (a) Basic fuchsine, (b) brilliant yellow.



**Figure S6.** The variations of water permeabilities and dye rejection rates with time for the GO/L membranes with  $R_{L/GO}$ =50 wt% for separating basic fuchsine and brilliant yellow dyes from aqueous solutions.