

Photocatalytic Antifouling Graphene Oxide-Mediated Hierarchical Filtration Membranes with Potential Applications on Water Purification

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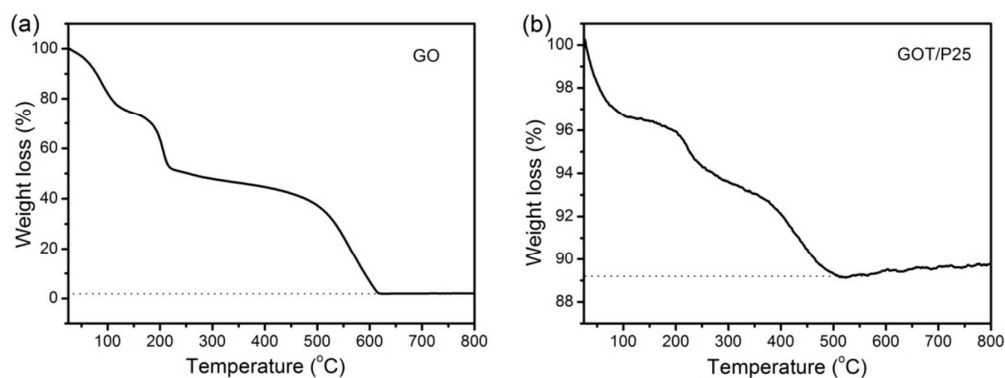


Figure S1. TG analysis of (a) GO and (b) GOT/P25

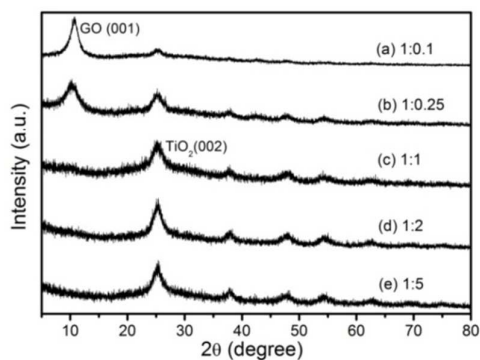


Figure S2. XRD patterns of GOT composite films with different weight ratios of GO and TiO₂: (a)1:0.1, (b)1:0.25, (c)1:1, (d)1:2, (e)1:5

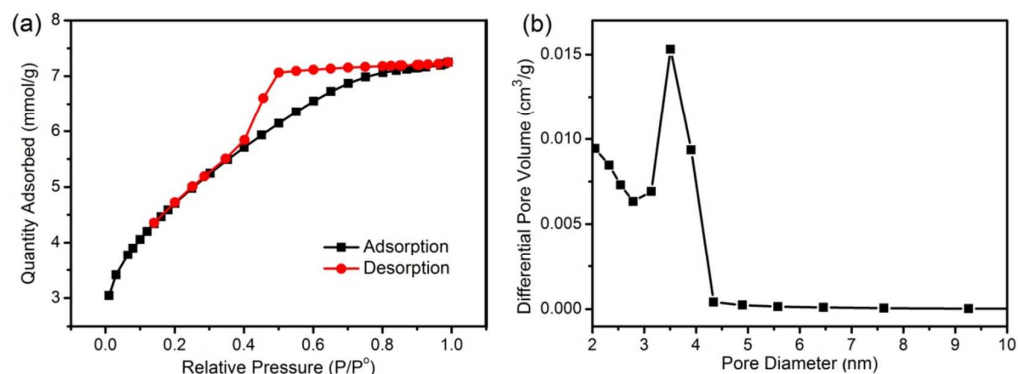


Figure S3. Nitrogen adsorption-desorption isotherms (a) and pore size distribution curve (b) of GOT

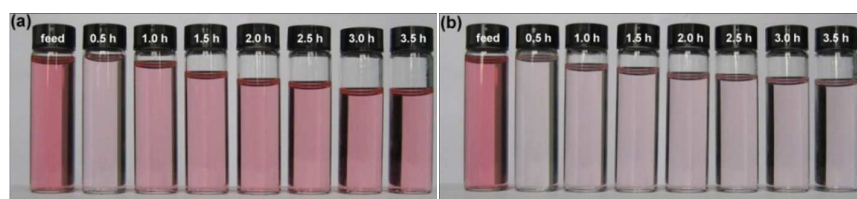


Figure S4. The digital photos of filtrate after DR 80 solution passing through GOT/P25 filtration membranes without (a) and with (b) UV light irradiation

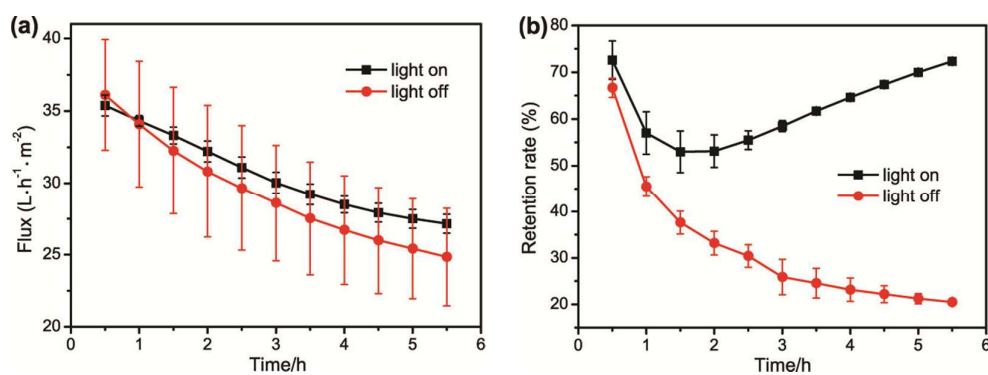


Figure S5. The flux (a) and retention rate (b) of GOT/P25 filtration membranes with and without UV light irradiation using Direct Blue15 as feed solution.

Table S1. The filtration performance of GO/P25 membranes using DR dye solution as feed for 30 min with/without UV light irradiation

Entry	Sample	Light	DR solution (10 μ mol/L, 35 ml)	
			Flux ($\text{L} \cdot \text{h}^{-1} \cdot \text{m}^{-2}$)	Retention rate (%)
1	GO/P25	Off	5.1 ± 0.2	97.7 ± 1.5
2	GO/P25	On	5.8 ± 0.3	98.1 ± 2.2

Table S2. The TOC values of filtrate after DR dye solution passing through GOT/P25 filtration membranes

Time/h		feed	0.5	1.0	1.5	2.0	2.5	3.0	3.5
TOC ($\text{mg} \cdot \text{L}^{-1}$)	Light off	5.5 ± 0.20	0.98 ± 0.11	2.31 ± 0.42	2.49 ± 0.28	2.53 ± 0.38	2.5 ± 0.38	2.48 ± 0.37	2.5 ± 0.41
	Light on		1.0 ± 0.21	1.29 ± 0.19	1.41 ± 0.0	1.41 ± 0.01	1.41 ± 0.02	1.39 ± 0.03	1.44 ± 0.06