

Supporting information

Electrospun active media based on PVDF-Graphene-TiO₂ nanocomposite materials for methanol and acetaldehyde gas-phase abatement.

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Introduction

Photocatalytic testing station; FTIR spectra of G, GO and nanocomposite photocatalysts; SEM micrographs of the produced nanostructured mat; TGA analysis performed for catalyst content determination and distribution evaluation over the membranes;

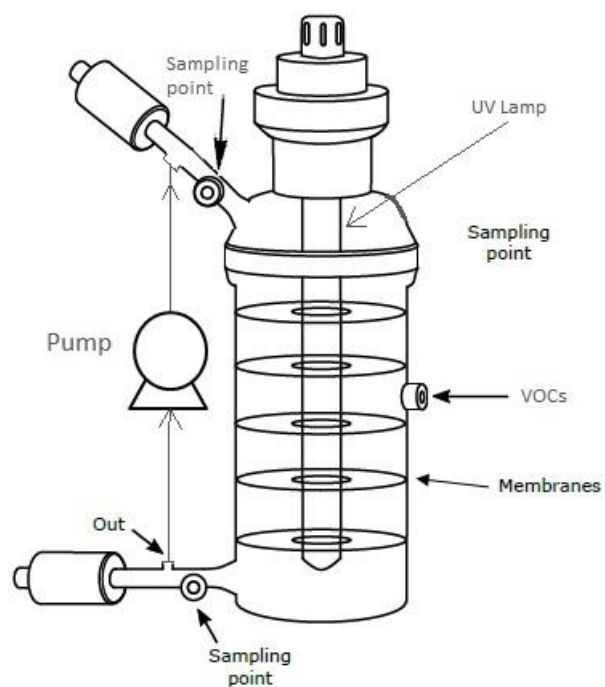


Figure S1 Photocatalytic testing station.

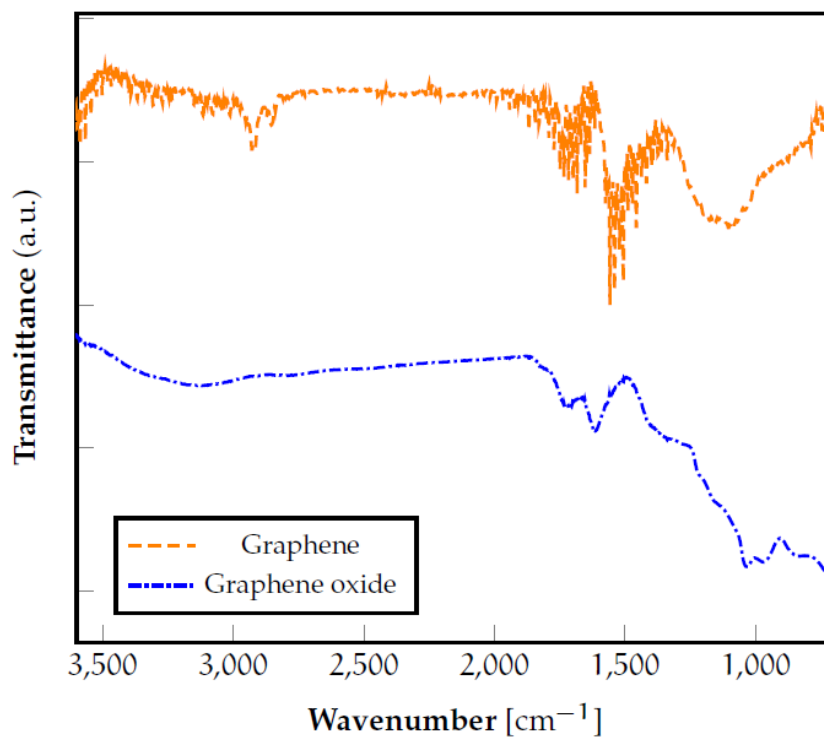


Figure S2. FTIR spectra of Graphene and GrapheneOxide. The spectrum of GO presents a first peak at 1050 cm⁻¹ which arises from the epoxide groups (C-O-C). The broad absorption band between 3100 and 3500 cm⁻¹ is associated to the -OH stretching vibration while the two peaks at 1720 and 1615 cm⁻¹ can be identified as C=O stretching of the

COOH groups and, respectively, the O-H bending vibration, epoxide groups and skeletal ring vibration [**Error!**
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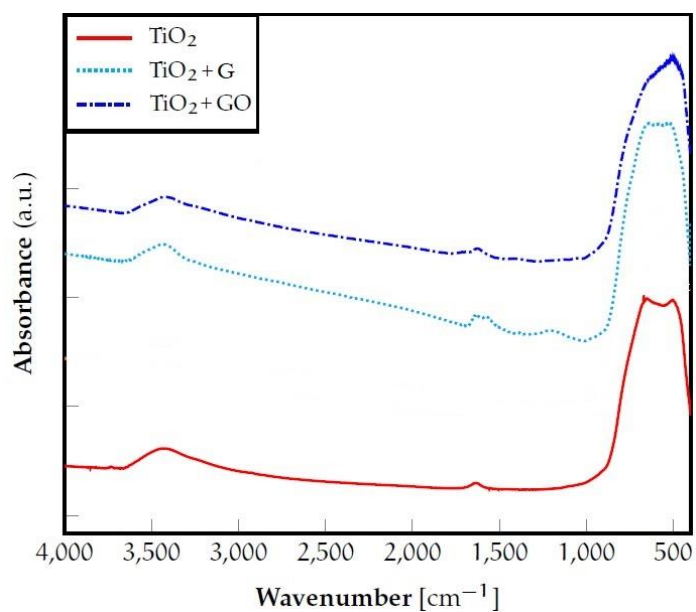


Figure S3. FTIR spectra of nanocomposite photocatalysts

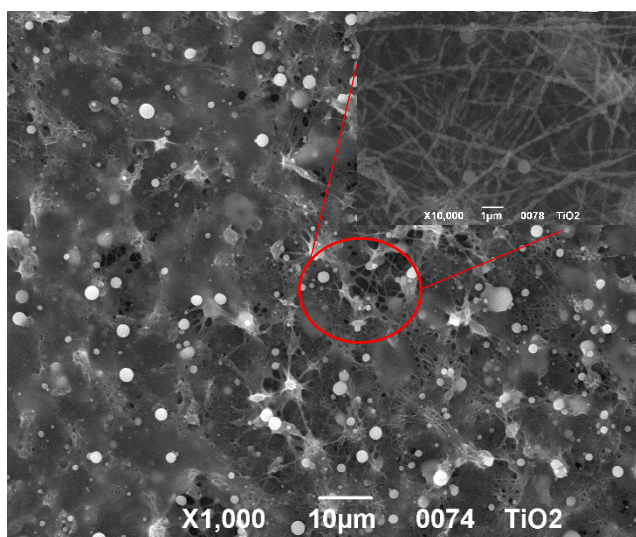
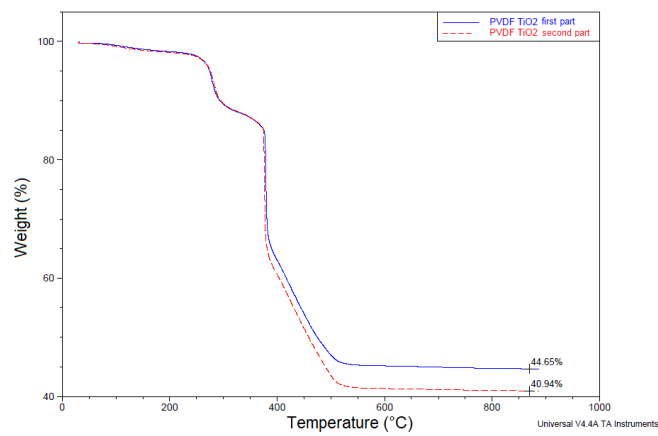
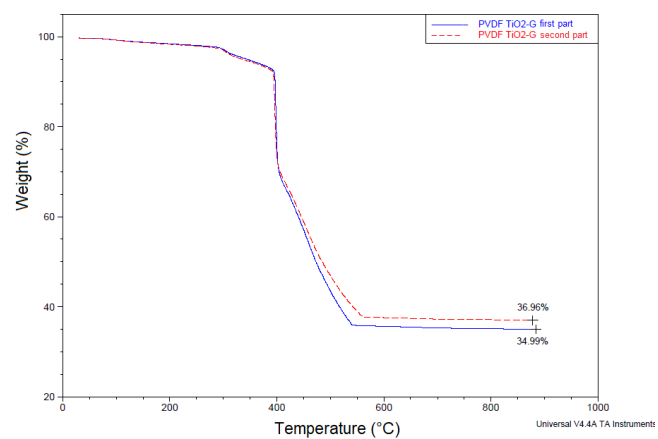


Figure S4. SEM micrograph of nanostructured mat based on PVDF- TiO_2 . Detail at higher magnification (bar scale 1 μm)

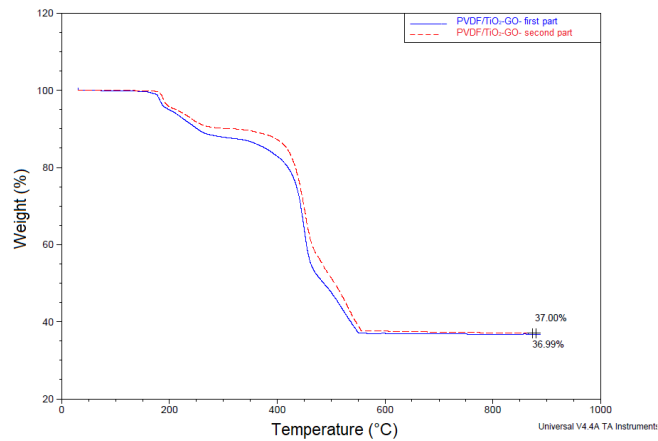
TGA analysis



(a) PVDF-TiO₂



(b) PVDF-TiO₂-G



(c) PVDF-TiO₂-GO

Figure S5. Thermograms of electrospun mats: (a) PVDF-TiO₂; (b) PVDF-TiO₂-G; (c) PVDF-TiO₂-GO