WO₃/Pt photocatalyst supported by ceramic filter for indoor air purification under visible light irradiation

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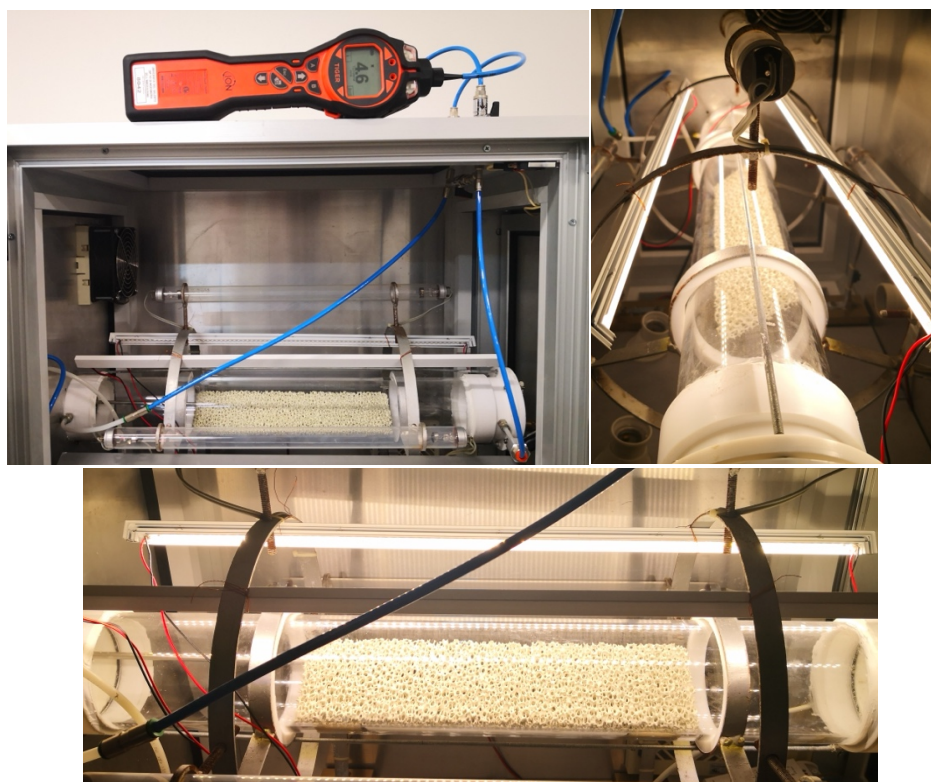
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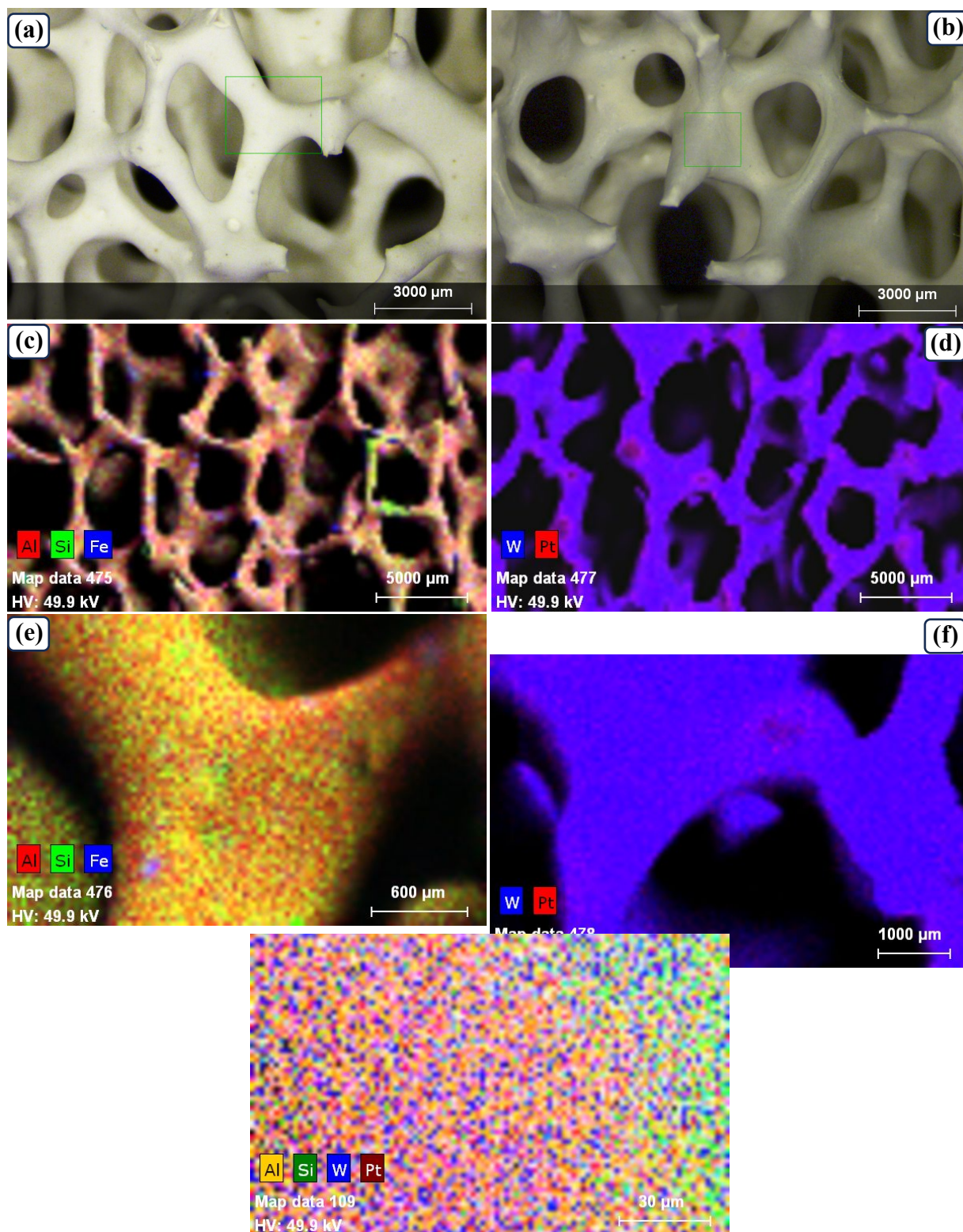
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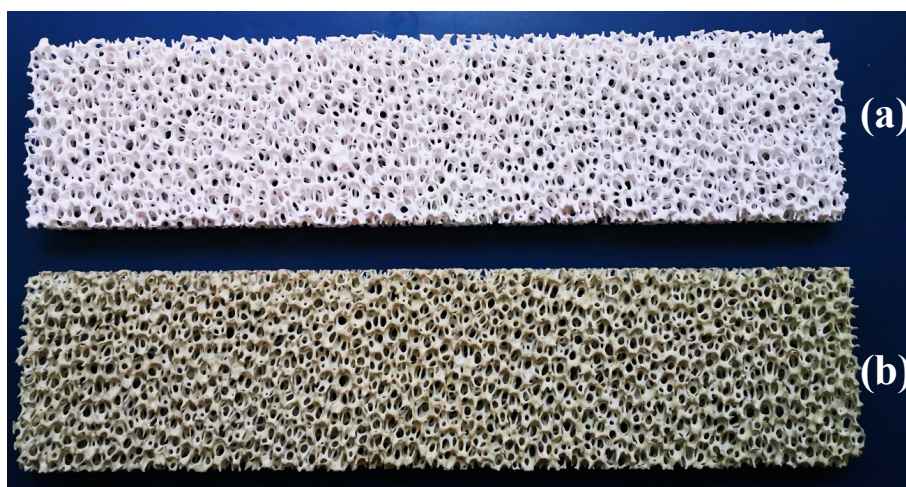
Fig. S1. Digital Photographs of the (a) uncoated and (b) WO$_3$/Pt coated ceramic foam filter (dimension: 30 cm x 7 cm x 1.5 cm).


Fig. S2. Digital Photographs of the experimental set up and the photoreactor for toluene photodegradation.

Fig. S3. Elemental distribution by XRF analyses; images of (a) uncoated and (b) WO$_3$/Pt coated CFF captured by the internal camera of the instrument. (c, e) distribution of the principal elements of the uncoated CFF and (d, f, g) Distribution of W and Pt on the coated CFF at different magnification.
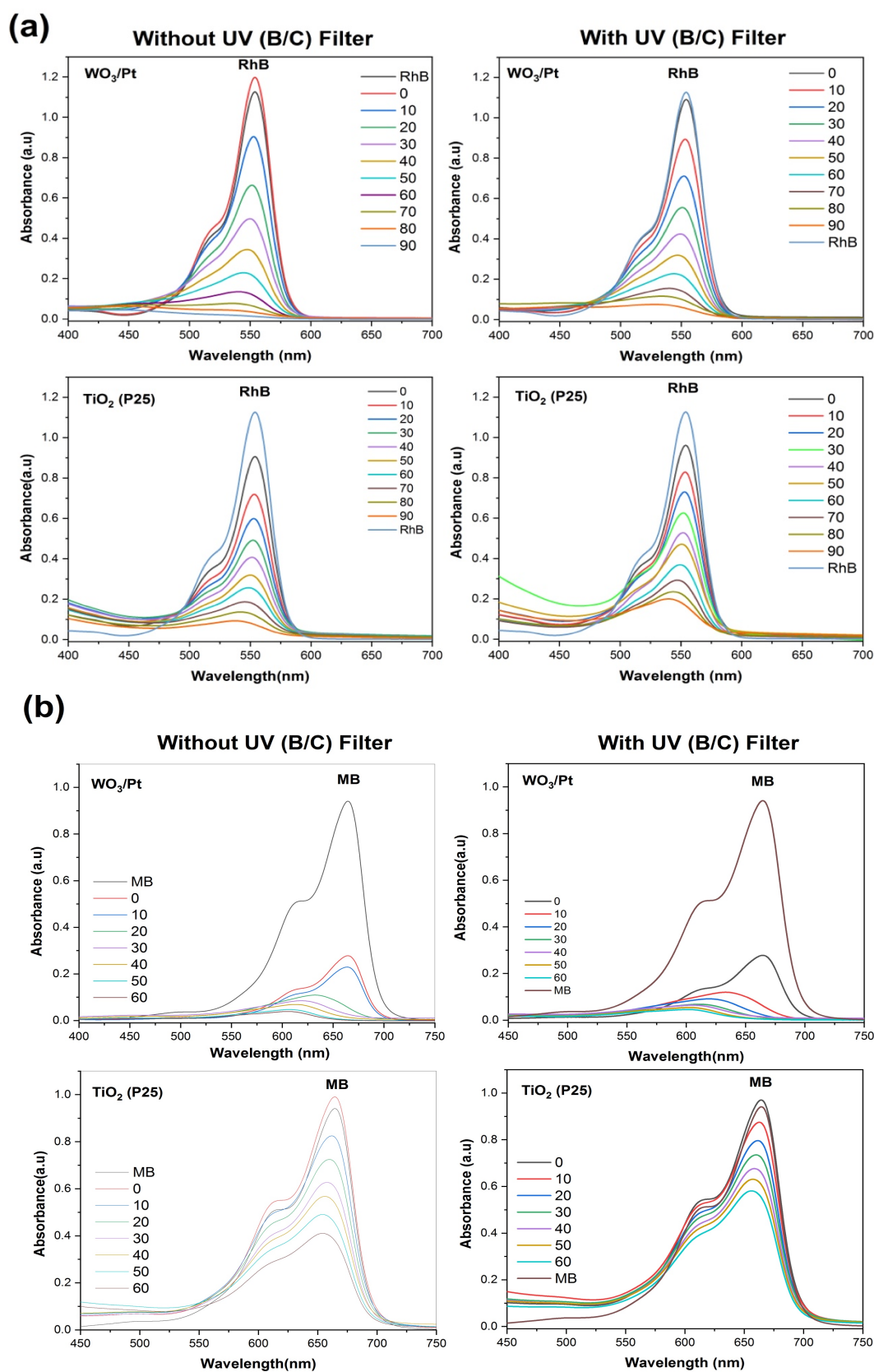
Fig. S4. UV-visible absorption spectra of (a) RhB, and (b) MB dye solutions as a function of solar light irradiation with WO₃/Pt and TiO₂ (P25) photocatalysts with and without using the UVB/UVC filter
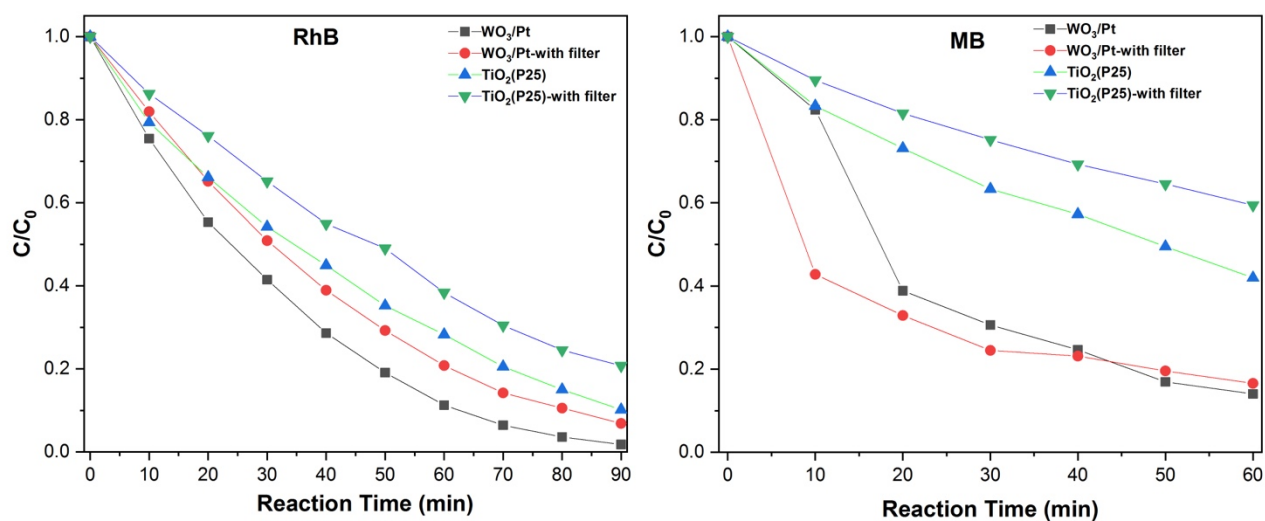
Fig. S5. Plot of C/C_0 against the solar light irradiation for RhB and MB dyes performed with the respective photocatalysts that is derived from Figure S4. C_0 represents the initial dye concentration and C is the concentration of the dye solution with respect to the solar lamp exposure duration.

Table S1. Reaction rate constant of RhB/MB dyes with the respective photocatalysts; with or without UVB/UVC filter.

Photocatalysts	Reaction rate constant (min^{-1})			
	Without UV (B/C) filter		With UV (B/C) filter	
	RhB	MB	RhB	MB
WO$_3$/Pt	0.066	0.018	0.059	0.017
TiO$_2$ (P25)	0.018	0.0077	0.012	0.0055