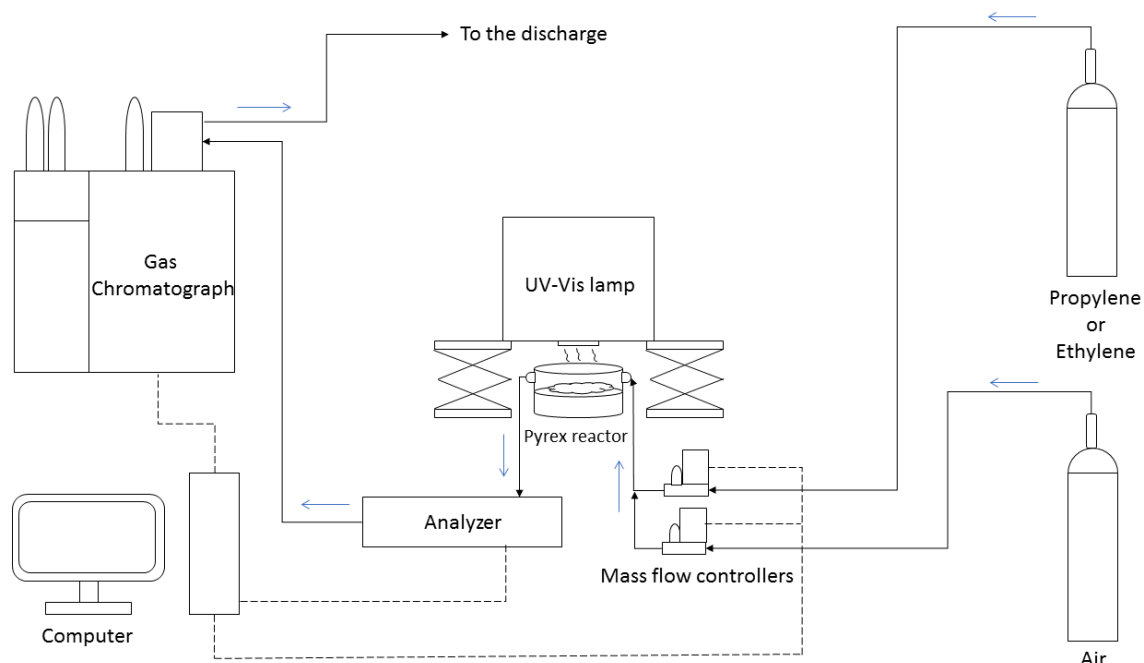


# Supplementary Materials: Photocatalytic Abatement of Volatile Organic Compounds by TiO<sub>2</sub> Nanoparticles Doped with Either Phosphorous or Zirconium

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**Figure S1.** Schematic diagram of the apparatus used for the photocatalytic tests.

## Procedure for the GC Data Elaboration

During the dark condition, the photocatalyst surface was saturated with either ethylene or propylene to reach a steady-state condition (the peak in the GC spectrum does not change). The peak area reflects the initial amount of VOC in the flow (500 ppmv of propylene or ethylene).

When the UV-Vis source was switched on, the area of the peak decreases over the time.

The conversion was calculated as the follow Equation (2):

$$\text{Conversion (\%)} = \frac{\text{Peak area}_{t=0} - \text{Peak area}_{t_i}}{\text{Peak area}_{t=0}} \quad (2)$$

where *Conversion (%)* is the propylene or ethylene converted at the time *t<sub>i</sub>*; *Peak area<sub>t=0</sub>* is the peak area at time 0 (= dark condition) *Peak area<sub>t<sub>i</sub></sub>* is the peak area at time *i* (from 0 to 3 h).