

Fig. S1 Chromatograms of benzene solutions (a) before and after photocatalytic reaction on 3%Au@P25 (b) in air and (c) under CO₂ (230 kPa), and on P25 (d) in air and (e) under CO₂ (230 kPa).

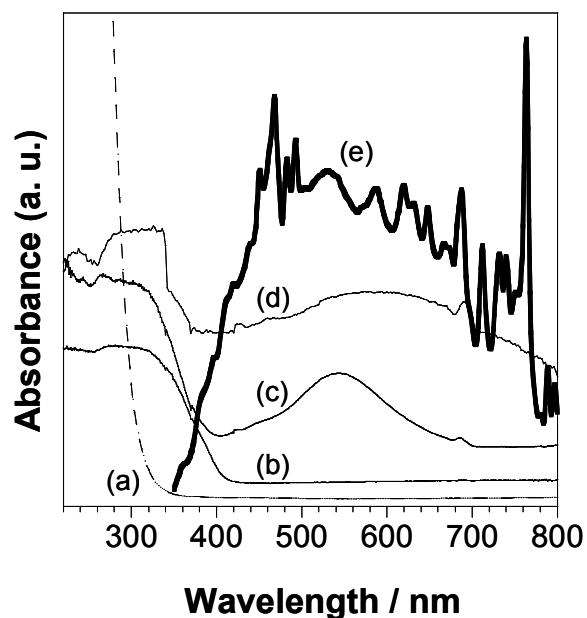


Fig. S2 UV-Vis. spectra of (a) Pylex glass window of the present reactor, (b) P25, (c) 3%Au@P25 and (d) 4%Au@Tynoc, and (e) radiation spectrum of a solar simulator used.

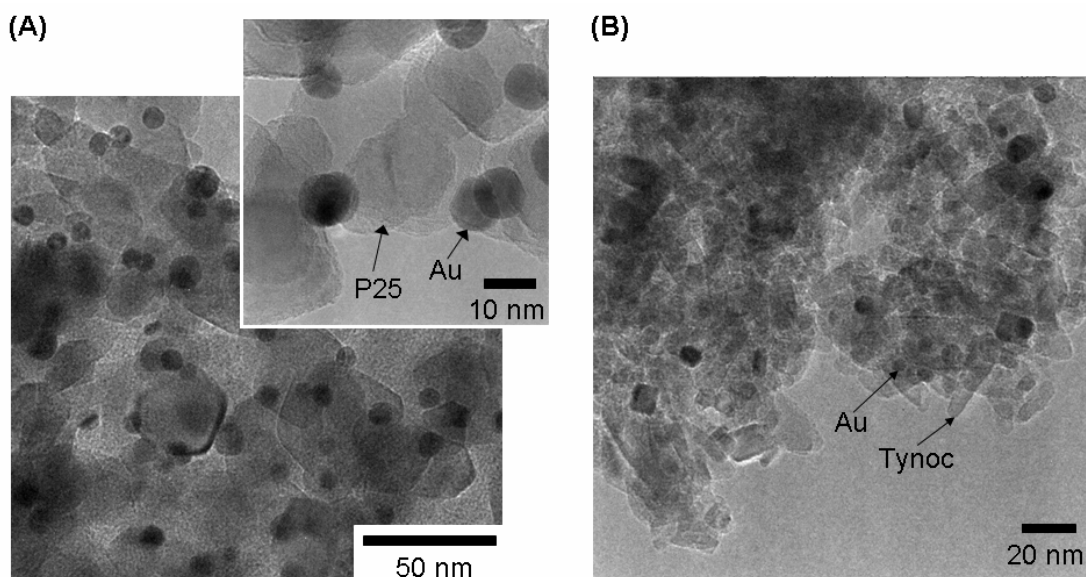


Fig. S3 TEM images of (a) 3%Au@P25 and (b) 4%Au@Tynoc.

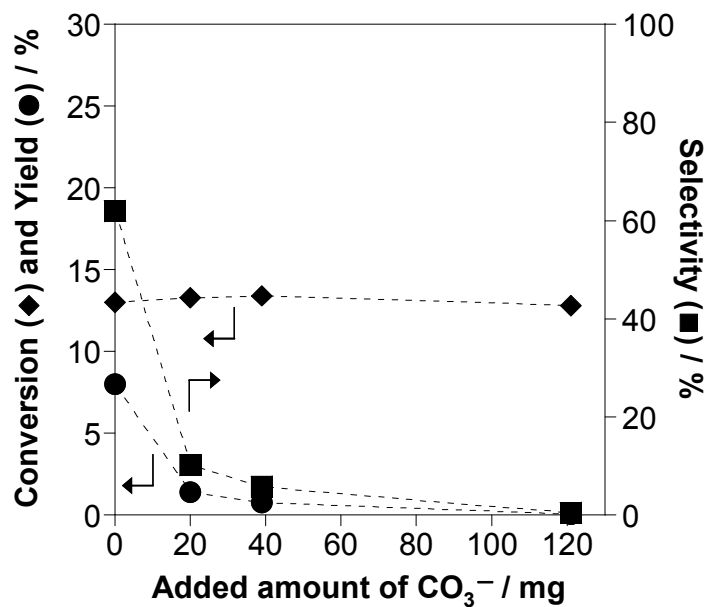


Fig. S4 The photocatalytic benzene oxidation activity on 3%Au@P25 in air as a function of the amount of the added NaCO₃ in the reaction mixture.