

Enhancement in the rate of nitrate degradation on Au- and Ag-decorated TiO₂ photocatalysts

Thomas Caswell,^a Mbongiseni W. Dlamini,^a Peter J. Miedziak,^{a,b} Samuel Pattisson,^a Philip R. Davies,^a Stuart H. Taylor,^a Graham J. Hutchings^{a*}

^aCardiff Catalysis Institute, School of Chemistry, Cardiff University, Park Place, Cardiff, CF10 3AT, UK

^bSchool of Applied Sciences, University of South Wales, Pontypridd CF37 4AT, UK

*Corresponding author: hutch@cardiff.ac.uk (GJ Hutchings)

Photocatalyst	Period after agitation (min)	Average aggregate diameter (nm)
P25 TiO ₂	0	6008
	120	3451
0.3%Au/TiO ₂	0	3813
	120	1021

Table S1: Dynamic light scattering (DLS) analysis of a suspension of 10 mg catalyst in 10 ml H₂O.

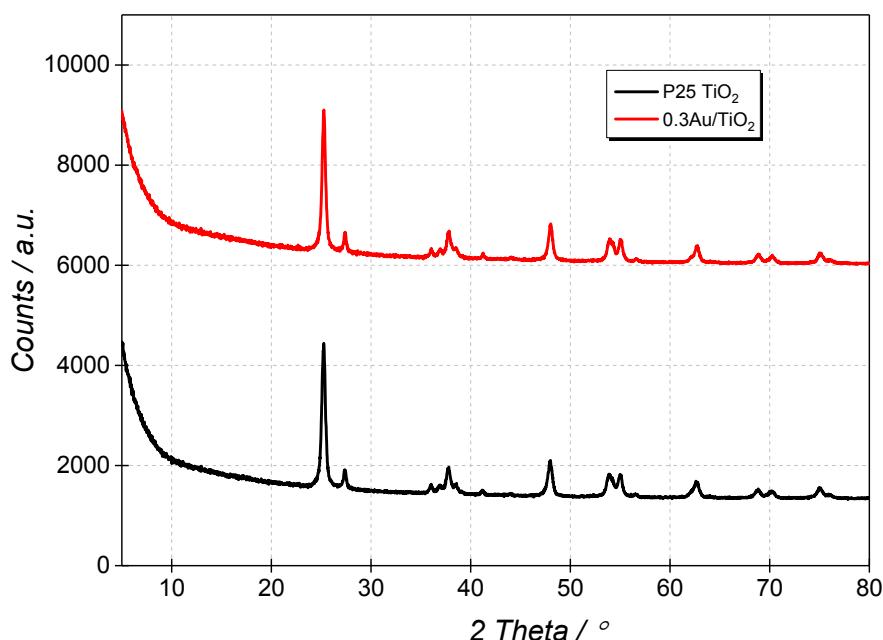


Fig. S1: *Ex situ* XRD patterns of the P25 TiO₂ support material (black line) and 1%Au/TiO₂ photocatalyst (red line).

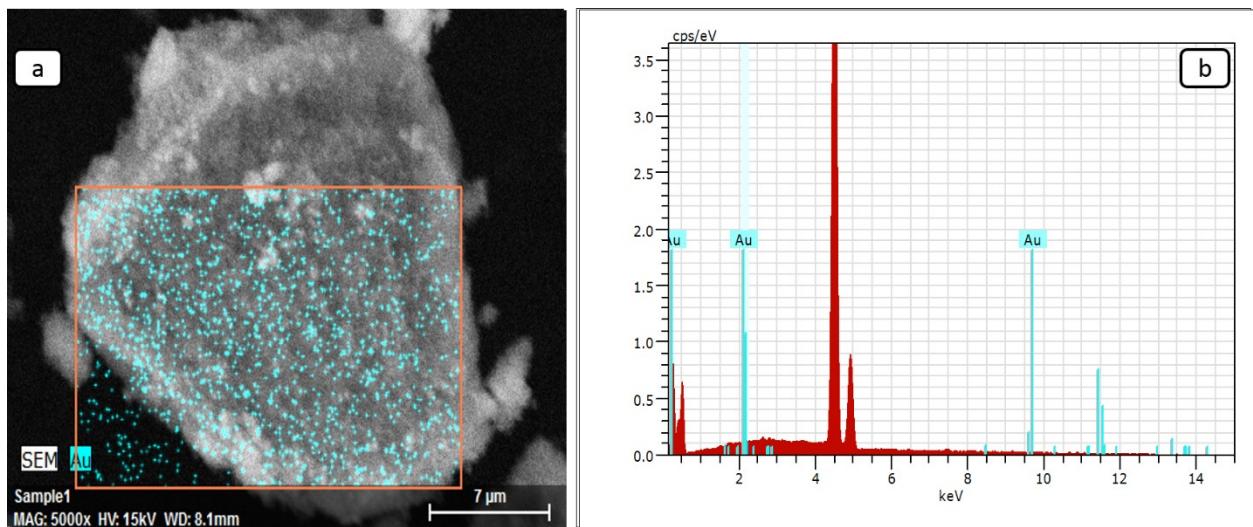


Fig. S2: (a) SEM-EDX elemental mapping and (b) the corresponding EDX spectrum of the 1%Au/TiO₂ catalyst.

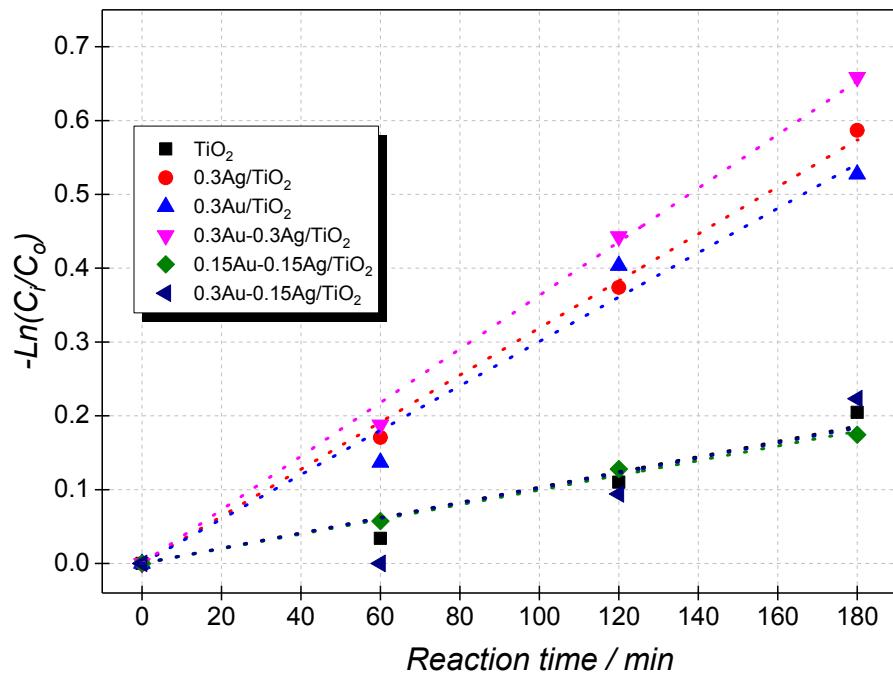


Fig. S3: Pseudo first order kinetics plot for the photocatalytic nitrate degradation on mono- and bimetallic samples.