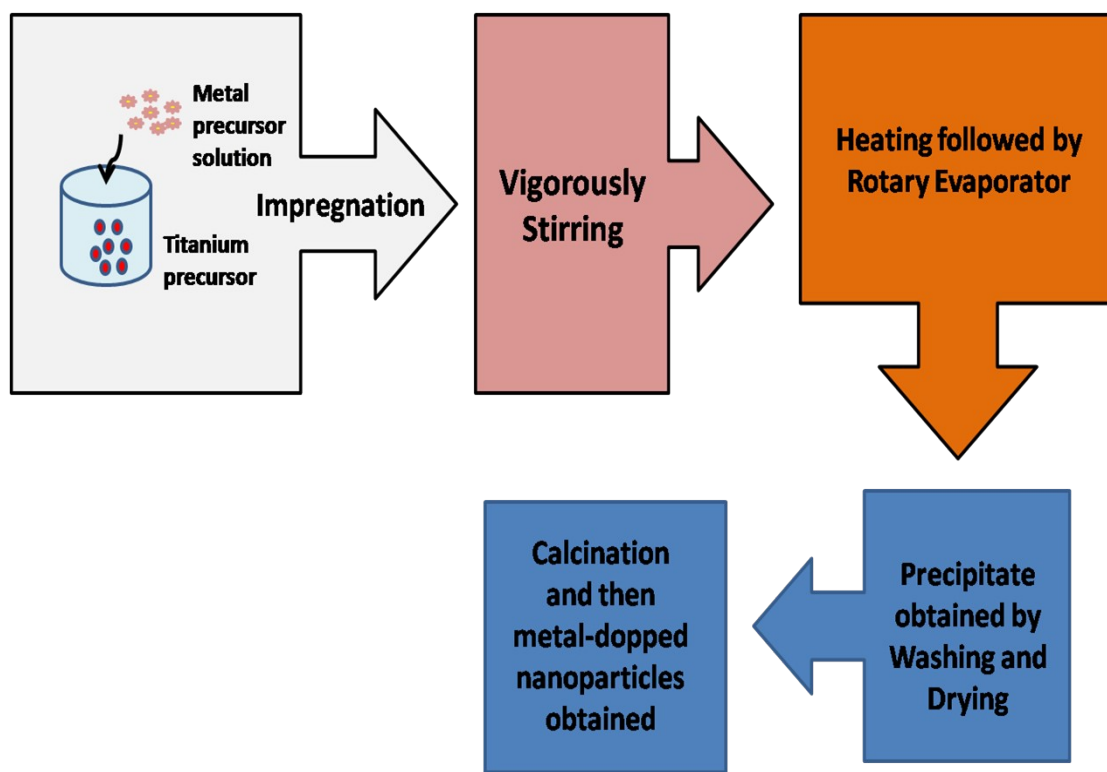# Supplementary File

Fig. S1 Flow chart for metal-doped TiO_2 plasmonic nanoparticles by impregnation method.
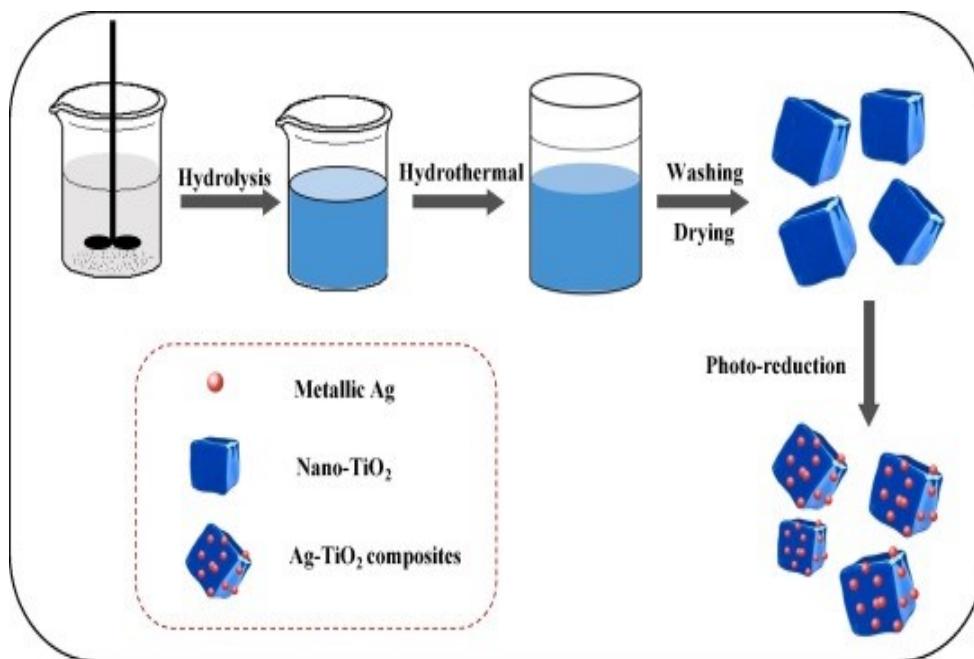
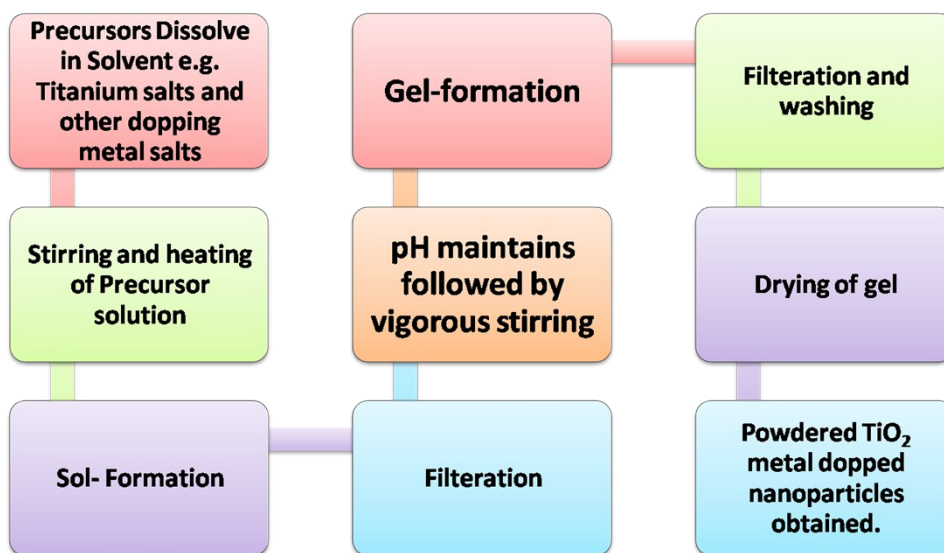**Fig. S2** Ag/TiO$_2$ nanocomposites preparation by photodeposition method (Zheng et al., 2019).

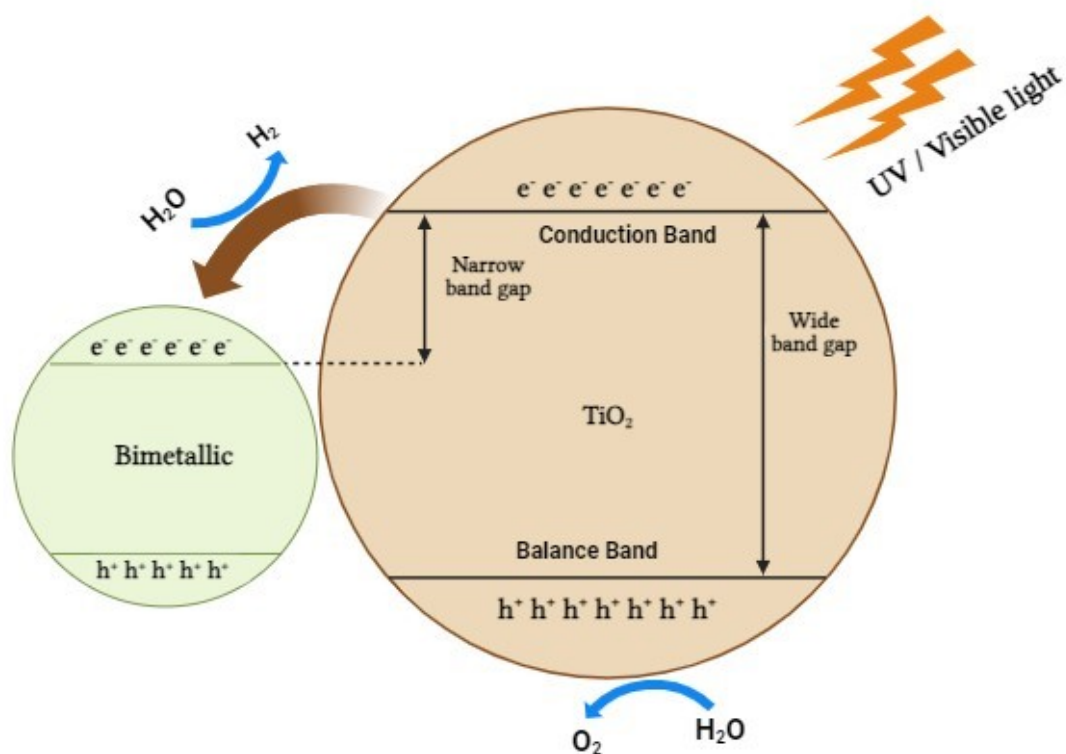**Fig. S3** Sol-Gel method for preparation of metal-doped TiO$_2$ nanoparticles.

Fig. S4 Bimetallic doped TiO_2 nanophotocatalysts.

Table S1: List of abbreviations associated with the review manuscript

5- Hydroxymethylfurfural	HMF
2,5-Furandicarboxylic acid	FDCA
Reactive Oxygen Species	ROS
Density Functional Theory	DFT
Titanium dioxide	TiO_2
Nanoparticles	NPs
Cadmium Sulphide	CdS
Tungsten trioxide	WO_3
Hydrogen	H_2
Valence band	VB
Conduction band	CB
Activated carbon	AC

Solvated metal atom dispersion	SMAD
Localized surface plasmon resonance	LSPR
2,5-diformylfuran	DFF
Carbon molecular sieves	CMS
Oxygen evolution reaction	OER
Surface plasmon resonance	SPR
Nanoclusters	NCs
Deionized water	DI
Lignocellulosic biomass	LCB
Benzene, Toluene, Xylene	BTX
Surface-enhanced Raman spectroscopy	SERS
Highest occupied molecular orbital	HOMO
Lowest unoccupied molecular orbital	LUMO
Greenhouse gas	GHG
Electron Spin Resonance	ESR