

Electronic Supplementary Information:

XRD patterns of the samples after catalytic application; schematic representation of the NP- WO_3 structure; HRTEM image of the nanoplatelet in the surface plane; TEM image and electronic diffraction pattern of the nanospheres (PS- WO_3) and complete Nyquist representation for both samples from room temperature to 500°C.

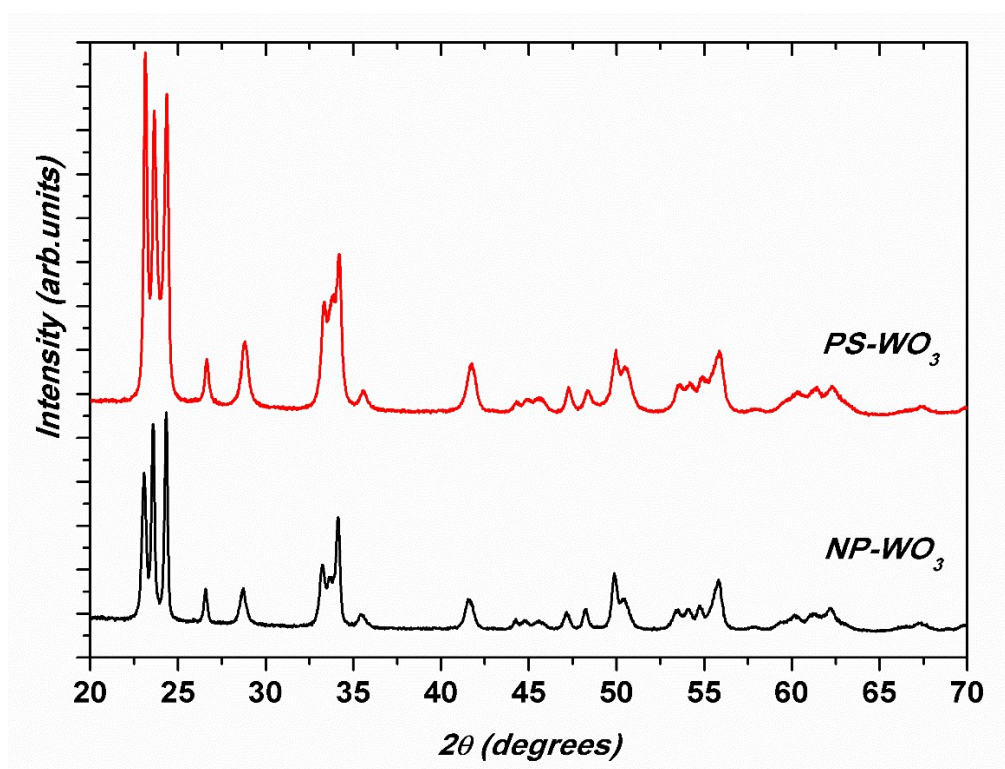


Fig. S1: an example of XRD patterns after catalysis applications. The Bragg positions are not modified, showing sample stability.

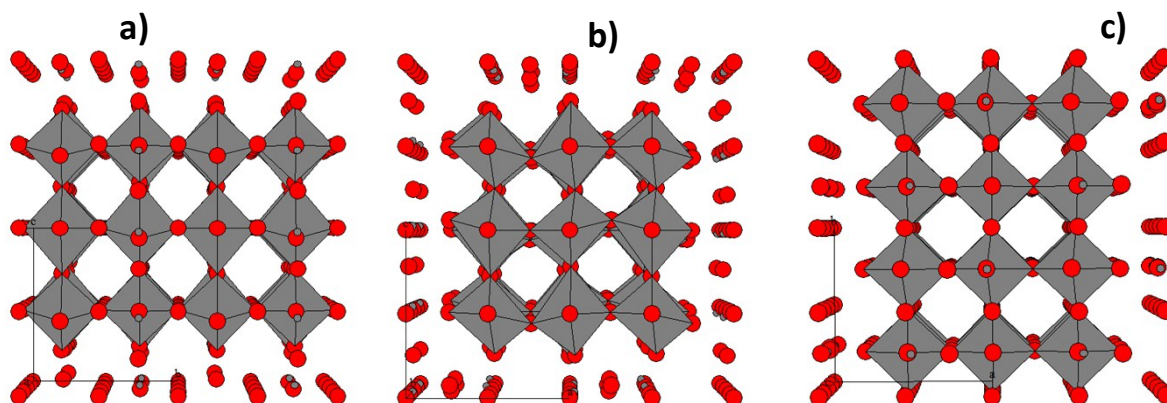


Fig. S2: Surface atoms arranged on different facets of orthorhombic WO_3 : a) (100), b) (010) and c) (001) facets

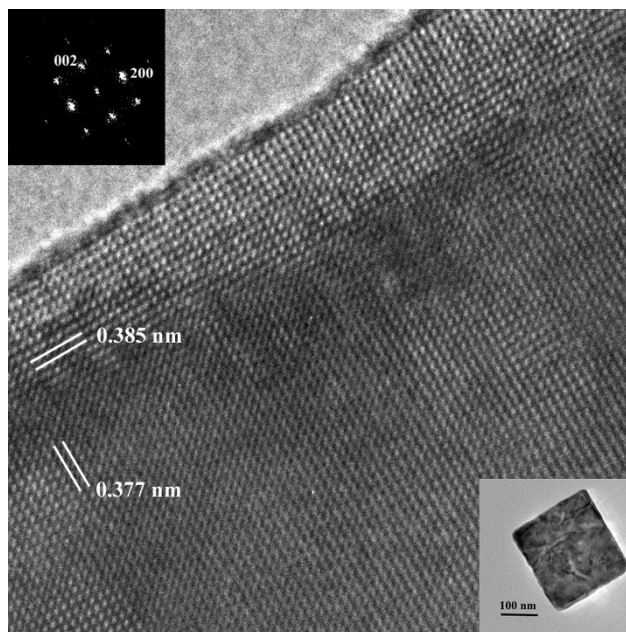


Fig. S3: HRTEM image of the nanoplacatelet viewed along the [010] direction, low magnification TEM image (right). Insert picture (left) correspond to Fourier Transform pattern

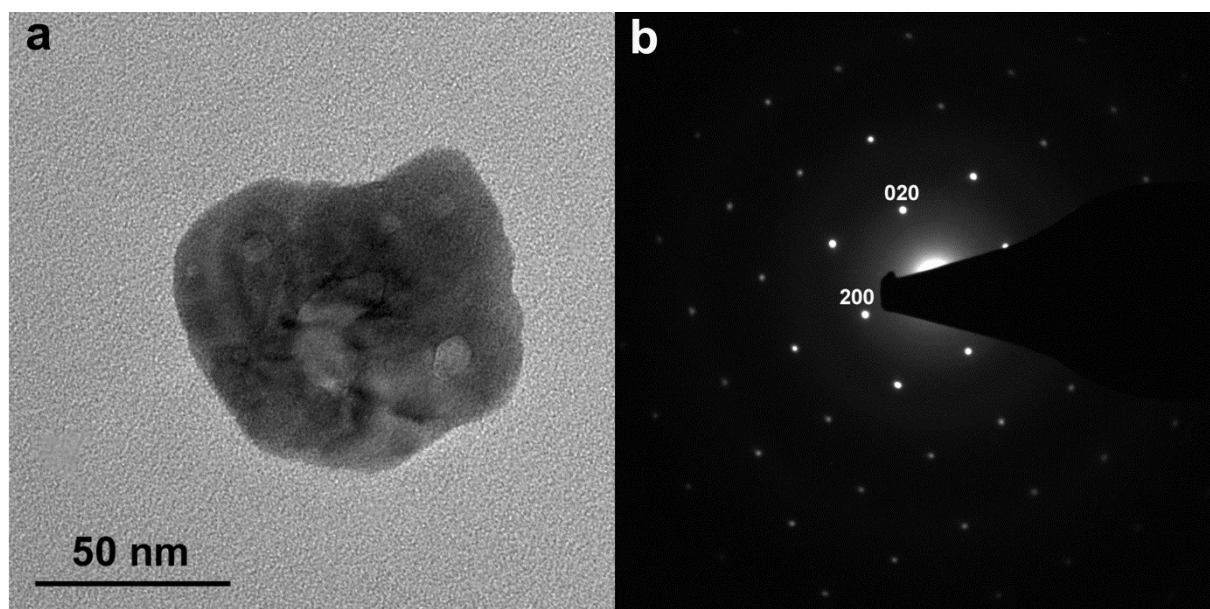


Fig. S4: TEM image and electronic diffraction pattern of the PS- WO_3 sample

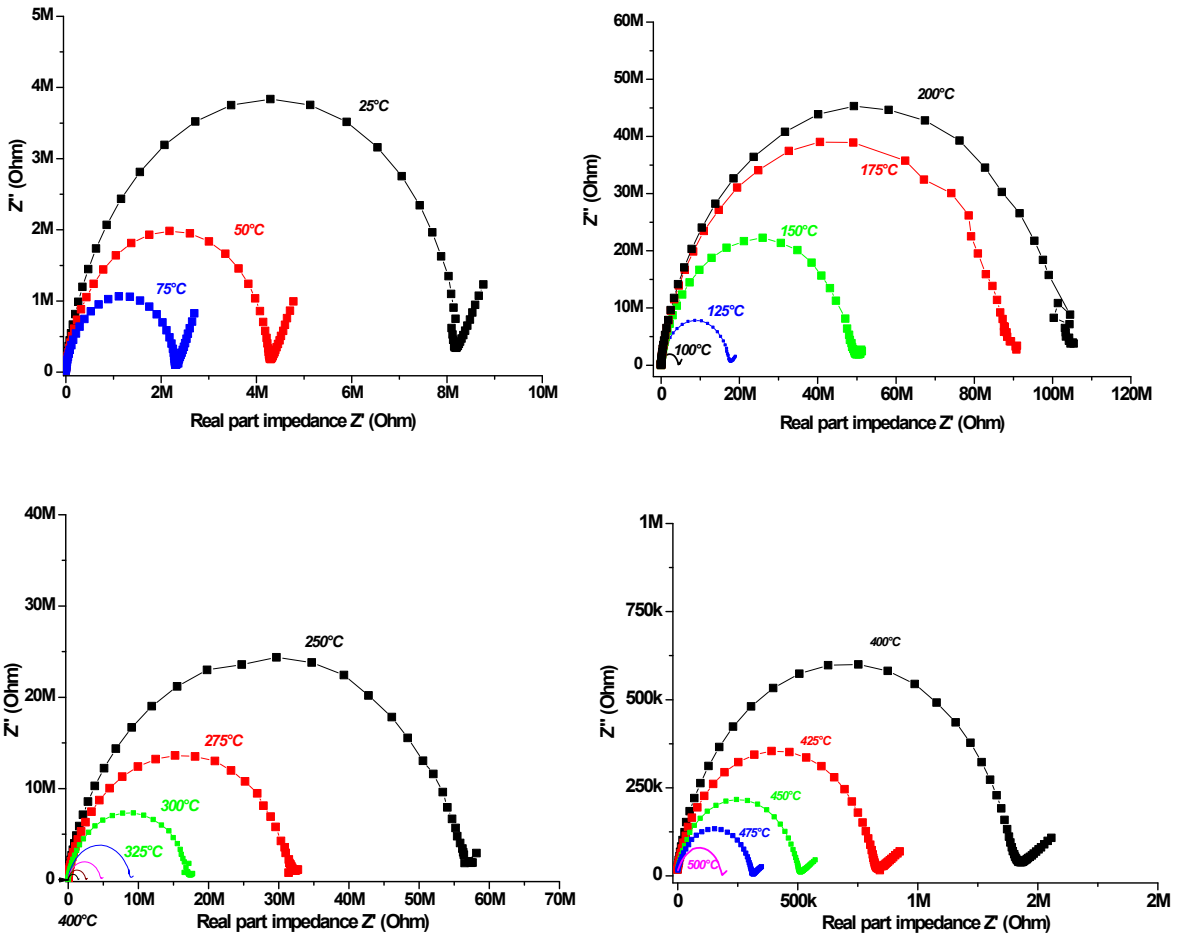
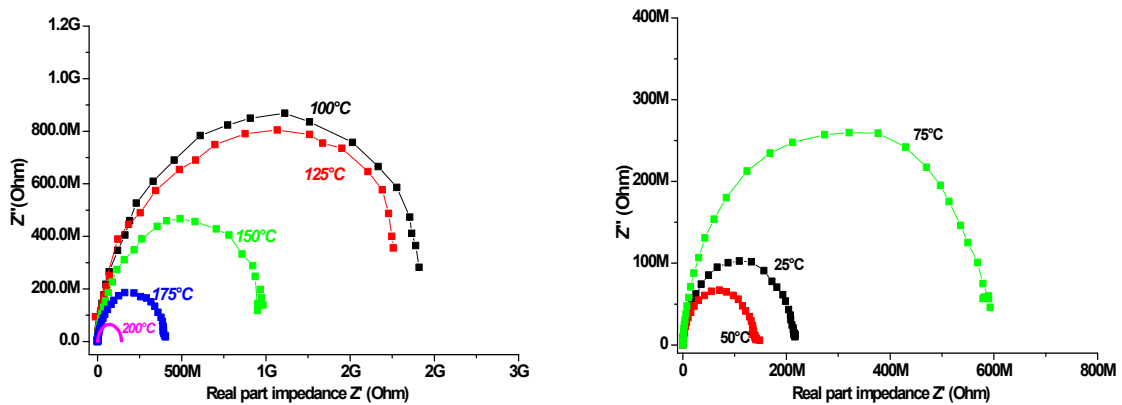


Fig. S5: Nyquist representation of the electrical impedance $Z = Z' + jZ''$ obtained for NP- WO_3 from room temperature to 500°C .



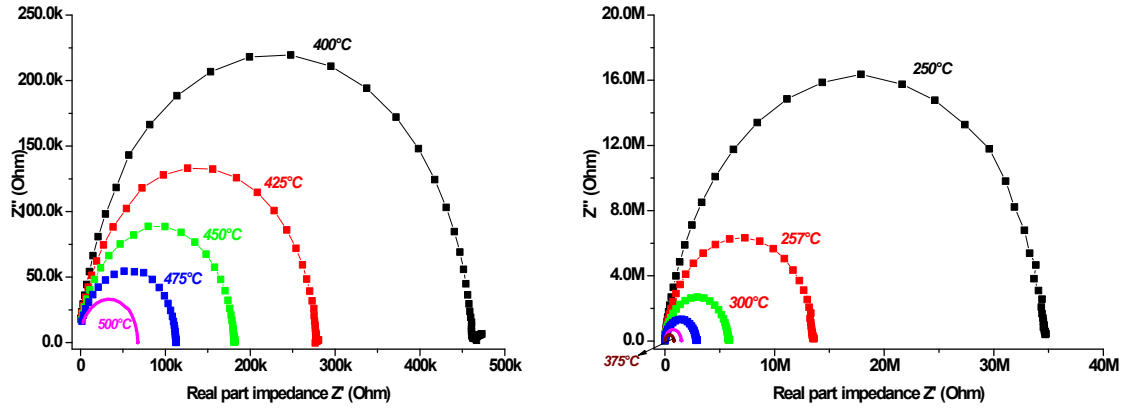


Fig. S6: Nyquist representation of the electrical impedance $Z = Z' + jZ''$ obtained for PS-WO₃ from room temperature to 500°C.

Table S1: Activation energies of the samples at different temperature range

WO ₃	Activation energy (eV)			
	E _{a1}	E _{a2}	E _{a3}	E _{a4}
NP	0.855	0.572	-0.560	0.222
PS	0.823	0.526	-0.511	-