

SUPPORTING INFORMATION

Tungsten Oxide by Non-Hydrolytic Sol-Gel: Effect of Molecular Precursor on Morphology, Phase and Photocatalytic Performance

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Characterisation data

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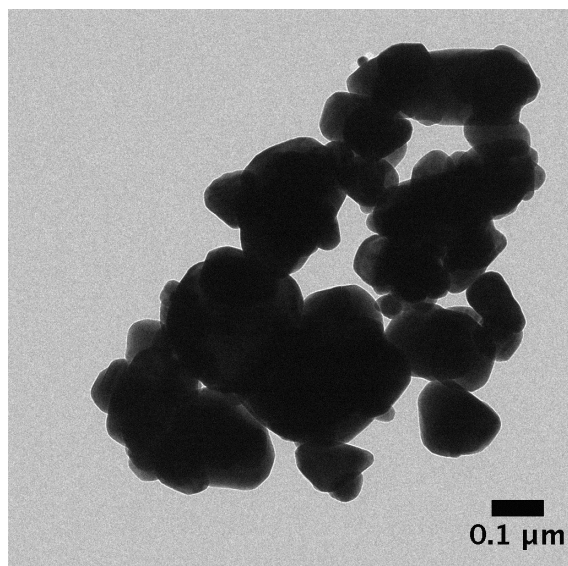


Figure S1. Representative Bright Field TEM image of commercial WO_3

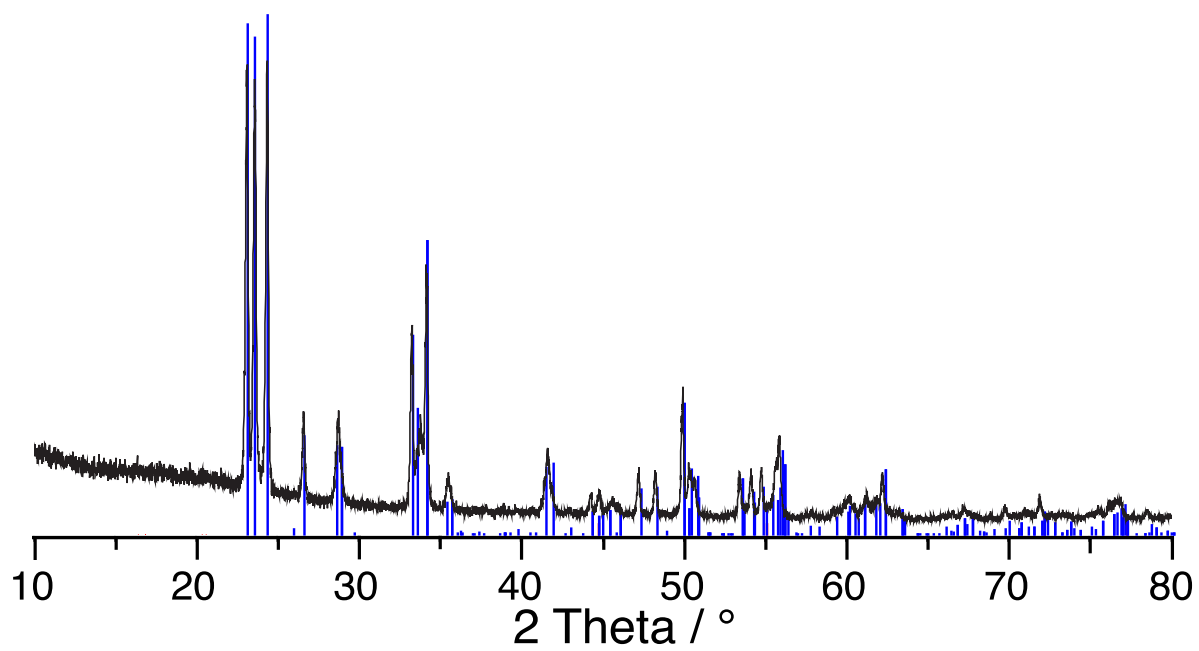


Figure S2. XRD powder pattern of commercial WO_3 (black) with reference pattern of monoclinic WO_3 (blue lines)

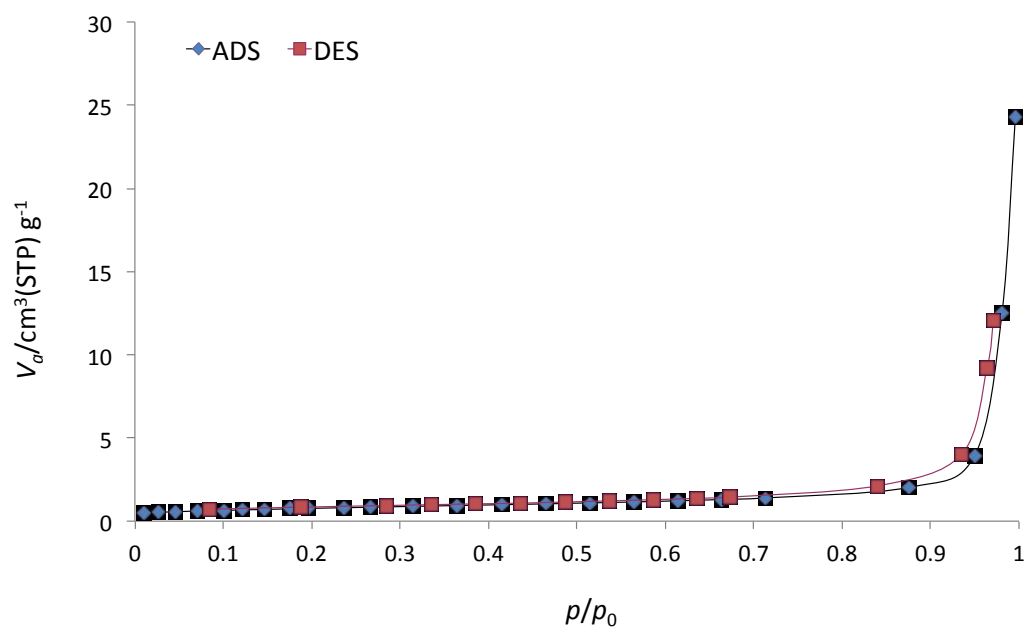


Figure S3. N₂ adsorption-desorption isotherm of commercial WO₃

Table S1. Surface area and electrical conductivity data

Sample	$S_{\text{BET}} / \text{m}^2 \cdot \text{g}^{-1}$	Electrical conductivity / $\text{S} \cdot \text{cm}^{-1}$
$\text{WO}_{\text{x(VI)}}$	85	$1.5 \cdot 10^{-4}$
$\text{WO}_{\text{x(IV)}}$	90	$1.0 \cdot 10^{-4}$
$\text{WO}_{\text{x(VI)}}\text{-N}_2$	42	$4.1 \cdot 10^{-3}$
$\text{WO}_{\text{x(IV)}}\text{-N}_2$	46	$4.0 \cdot 10^{-2}$
Commercial WO_3	2.7	$4.5 \cdot 10^{-7}$

Table S2. Elemental analysis data for the NHSG materials before and after N_2 treatment

Sample	W	C	Cl	N
$\text{WO}_{\text{x(VI)}}$	78.6	0.13	0.17	< 0.2
$\text{WO}_{\text{x(IV)}}$	78.3	0.87	1.55	< 0.2
$\text{WO}_{\text{x(VI)}}\text{-N}_2$	79.1	0.14	< 0.1	< 0.2
$\text{WO}_{\text{x(IV)}}\text{-N}_2$	79.9	0.67	0.11	< 0.2

Table S3. W L_3 -edge energies of WO_x materials

Sample	White Line Position / eV
WO_3	10211.56
WO_2	10210.34
$\text{WO}_{\text{x(VI)}}$	10211.21
$\text{WO}_{\text{x(IV)}}$	10210.81