Table S1 - Structural refinement data for WO_3: Pr^{+3} samples

Samples	WO_3	WO_3: 1% Pr	WO_3: 2% Pr	WO_3: 4% Pr
Symmetry	Monoclinic	Monoclinic	Monoclinic	Monoclinic
Space group	$P_{21/n}$	$P_{21/n}$	$P_{21/n}$	$P_{21/n}$
a (Å)	7.3081	7.3088	7.3112	7.3138
b (Å)	7.5331	7.5345	7.5343	7.5333
c (Å)	7.6939	7.6957	7.6953	7.6945
V (Å)^3	423.53	423.75	423.86	423.91
$\alpha = \gamma$ (°)	90			
β (°)	90.773	90.761	90.799	90.807
D (nm)	36	38	43	54
E ($\times 10^{-3}$)	0.56	0.48	0.44	0.33
X^2	2.53	1.56	1.47	1.41
Wrp (%)	19.74	25.01	25.09	23.63
Wp (%)	15.49	18.54	18.79	17.26
Rf^2(%)	2.94	3.11	1.85	1.37

Table S2 - Atomic position and the values of the length of the bonds (W-O)

Atom site	x	y	z	Occupancy	Length of the bonds
WO_3					
O1	0.042	0.006	0.24	1	(O1-W2): 2.1(3) Å
O2	1.016	0.428	0.176	1	(O2-W2): 2.09(9) Å
O3	0.256	0.269	0.234	1	(O3-W2): 2.73(12) Å
O4	0.253	0.261	0.666	1	(O4-W2): 1.93(9) Å
O5	0.0338	-0.078	0.004	1	(O5-W2): 2.16(10) Å
O6	0.474	0.365	1.078	1	
W1	0.2506	0.0337	0.2836	1	
W2	0.2468	0.0332	0.7812	1	
WO_3: 1% Pr					
O1	-0.011	0.007	0.226	1	(O1-W2): 1.90(2) Å
O2	1.035	0.4	0.124	1	(O2-W2): 2.01(13) Å
O3	0.25	0.263	0.26	1	(O3-W2): 1.78(12) Å
O4	0.265	0.287	0.626	1	(O4-W2): 2.03(13) Å
O5	0.384	0.184	-0.016	1	(O6-W2): 1.72(11) Å
O6	0.287	0.47	0.999	1	
W1	0.2412	0.0284	0.2872	0.99	
W2	0.2485	0.0368	0.782	0.99	
Pr1	0.2412	0.0284	0.2872	0.01	
Pr2	0.2485	0.0368	0.782	0.01	
WO_3: 2% Pr					
O1	0	0.039	0.207	1	(O1-W2): 1.93(10) Å
O2	1.011	0.477	0.192	1	(O2-W2): 2.02(10) Å
O3	0.272	0.254	0.291	1	(O4-W2): 1.78(8) Å
O4	0.221	0.262	0.723	1	(O5-W2): 1.74(7) Å

O5	0.292	0.029	0.004	1	(O6-W2): 2.06(8) Å
O6	0.38	0.325	1.017	1	
W1	0.2449	0.026	0.2854	0.977	
W2	0.2522	0.0344	0.7802	0.977	
Pr1	0.2449	0.026	0.2854	0.017	
Pr2	0.2522	0.0344	0.7802	0.017	
WO₃: 4% Pr					
O1	-0.004	-0.013	0.237	1	(O1-W2): 1.83(13) Å
O2	1.054	0.491	0.217	1	(O2-W2): 1.95(3) Å
O3	0.26	0.266	0.240	1	(O4-W2): 2.03(7) Å
O4	0.218	0.261	0.724	1	(O5-W2): 2.05(7) Å
O5	0.477	0.181	-0.153	1	(O6-W2): 1.84(5) Å
O6	0.241	0.495	1.002	1	
W1	0.2455	0.0294	0.28108	0.957	
W2	0.253	0.0287	0.7848	0.957	
Pr1	0.2455	0.0294	0.28108	0.037	
Pr2	0.253	0.0287	0.7848	0.037	