Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supporting Information

Morphological and structural behavior of TiO2 nanoparticles in the presence of WO3: crystallization of the oxide composite system

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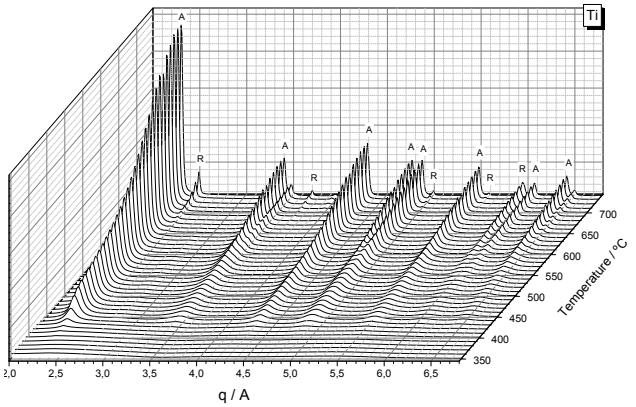
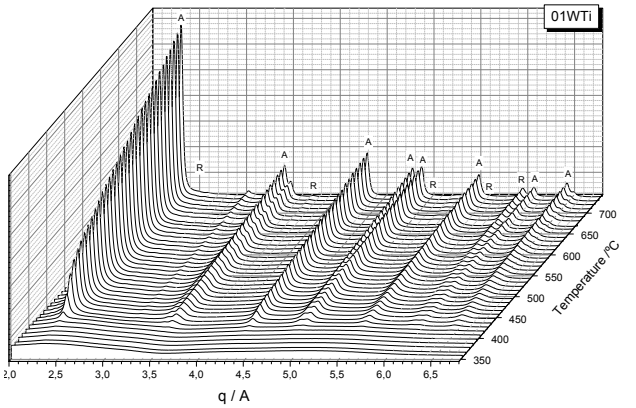
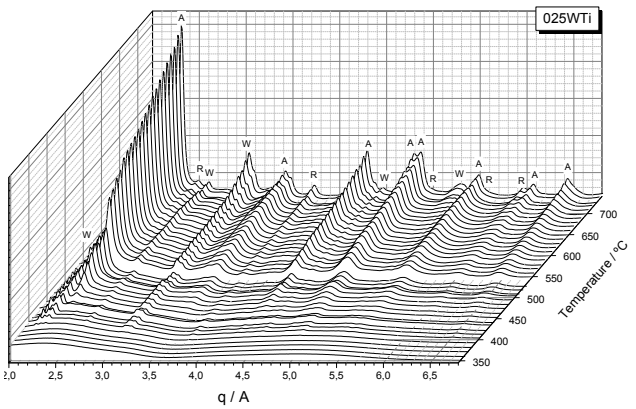
Raw Diffraction data







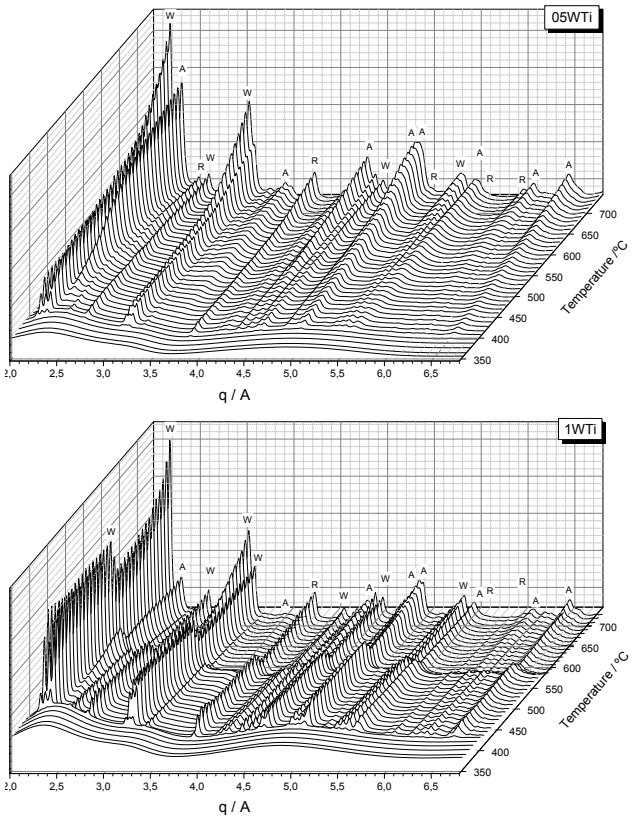


Fig. S1. XRD patterns of the Ti reference and WTi samples under a O_2/He temperature ramp. Anatase (A), Rutile (R), and WO_3 (W) peaks are marked.

Analysis of cell parameter thermal expansion

To estimate the thermal expansion coefficient along the *a* and *c* crystallographic direction of anatase struture, we subjected our nanocristalline pure anatase reference material previously calcined at 600 ^{0}C to the same temperature ramp and atmosphere of the experiments presented in the main part of the manuscript. Results from Rietveld analysis and concerning parameter cell behavior are presented in Fig. S1.

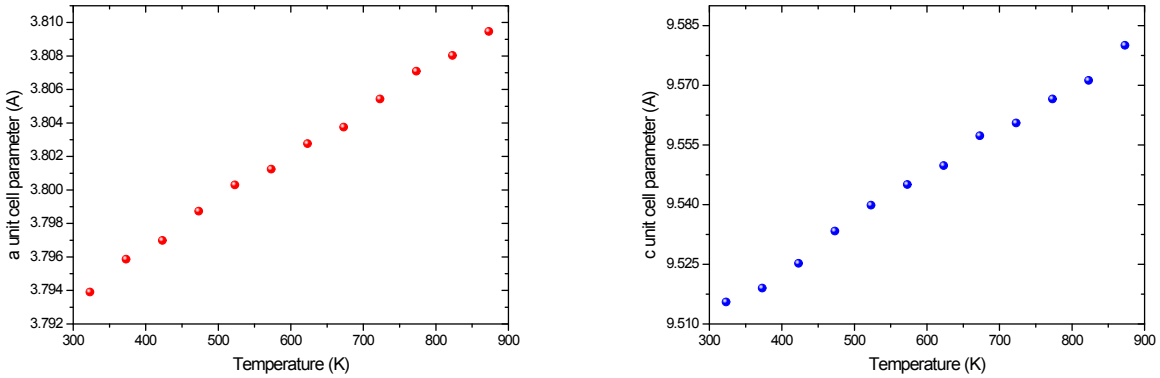


Fig. S2. Cell paramater for an anatase pure material (initial particle size 18 Å) during a ramp treatment 20%O_2/He.

The linear fitting of results presented in Fig. S1 yielded the following values:

Par(A) = 3.7854(3) + 2.77(4) 10^{-5} T
Par(C) = 9.578(1) + 1.16(2) 10^{-4} T

With R^2 values above 0.995.