Supplementary information

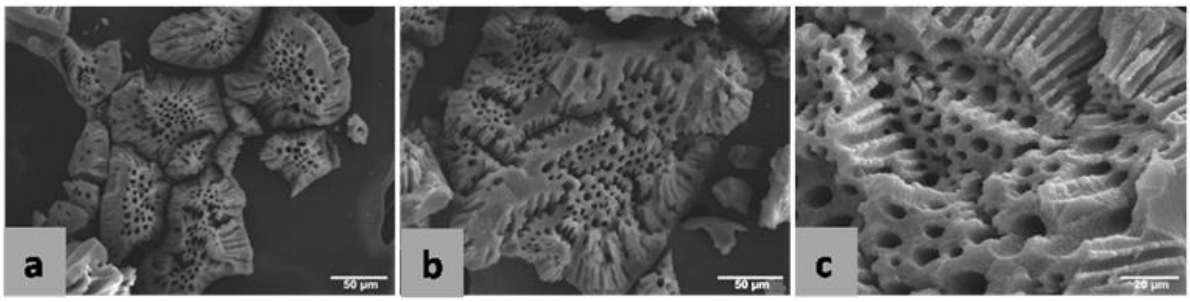

Figure 1. SEM images of macroporous TiO_2 material synthesized from $Ti(OEtHex)_4$ at pH 13.

The alkoxide reaction process at a starting pH value of 3 is presented in the form of discrete snapshots (Figure 2). The reaction occurring at the water-alkoxide interface can be seen in these images.

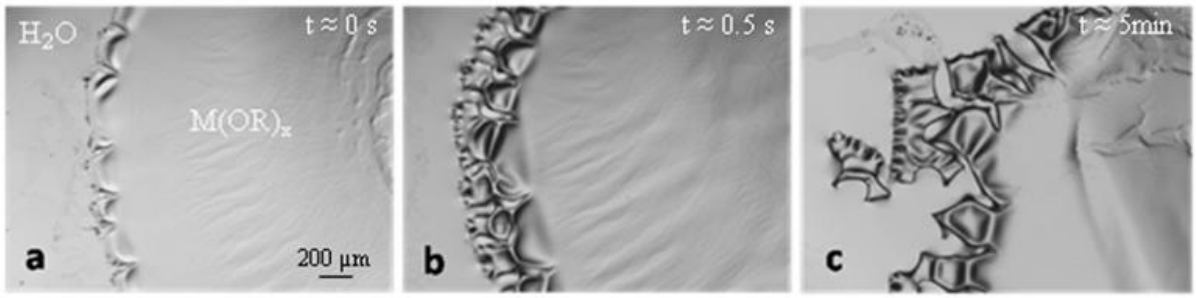

Figure 2. Optical microscopy images of a $Ti(OEtHex)_4$ drop in water at pH 3.

A liquid alkoxide drop with an outer shell and scalloped pattern is shown in Figure 3(a). As a result of further reaction, the solid oxide formed is depicted by a darker region as seen under optical microscope (Figure 3 (b)) and the water/alcohol byproduct vortex can be in the center of the alkoxide drop (Figure 3(c)).

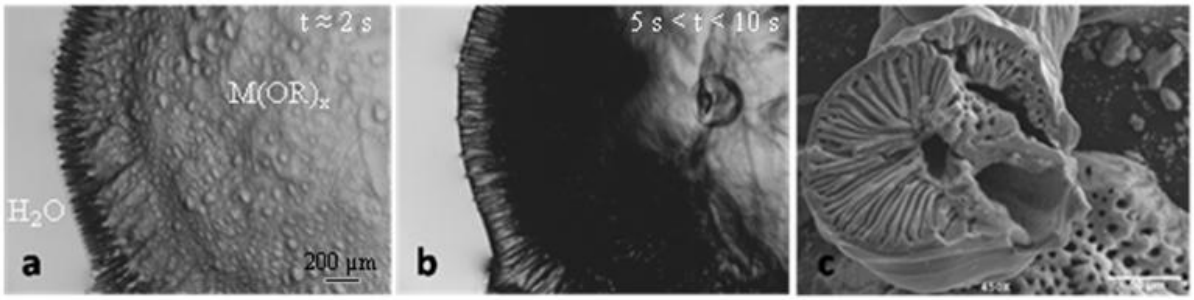

Figure 3: (a) Optical microscopy showing the accumulation of alcohol/water byproduct in the center of the alkoxide droplet as the reaction progresses (a,b) and corresponding SEM image (c).