

Correction to TiO_2 Nanotubes: Interdependence of Substrate Grain Orientation and Growth Characteristics

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In our article,¹ we showed a map, acquired through electron backscatter diffraction (EBSD) measurements, of the crystallographic orientations of different titanium (Ti) substrate grains together with an associated color legend. Due to an error in the software-aided data processing, the original indexing of the color legend was inaccurate. The color legend must therefore be corrected as follows: at its corners, it should show the planes $\text{Ti}(010)$ (blue corner) and $\text{Ti}(-120)$ (green corner) instead of $\text{Ti}(110)$ (blue corner) and $\text{Ti}(010)$ (green corner) that had been originally assigned. The substrate orientation $\text{Ti}(001)$ was correctly assigned to the red corner in the original paper.¹

The Ti substrate grain orientations given in ref 1 must therefore be adjusted according to the corrected color legend throughout the entire article text. It is noteworthy that throughout the paper, crystallographic planes are given to describe the Ti substrate grain orientations.

In the whole paper, the Ti substrate orientations have to be corrected as follows:

| original manuscript | corrigendum |
|--------------------------------|--------------------------------|
| $\text{Ti}(001)$ (red) | $\text{Ti}(001)$ (red) |
| $\text{Ti}(010)$ (green) | $\text{Ti}(-120)$ (green) |
| $\text{Ti}(110)$ (blue) | $\text{Ti}(010)$ (blue) |
| $\text{Ti}(102)$ (yellow) | $\text{Ti}(-122)$ (yellow) |
| $\text{Ti}(112)$ (magenta) | $\text{Ti}(012)$ (magenta) |
| $\text{Ti}(111)$ (deep purple) | $\text{Ti}(021)$ (deep purple) |

Corrections to the figures and figure captions in the article are outlined below:

On page 386, the color legend in Figure 2 should be corrected as shown. On page 387, the orientations given in Figure 3 in

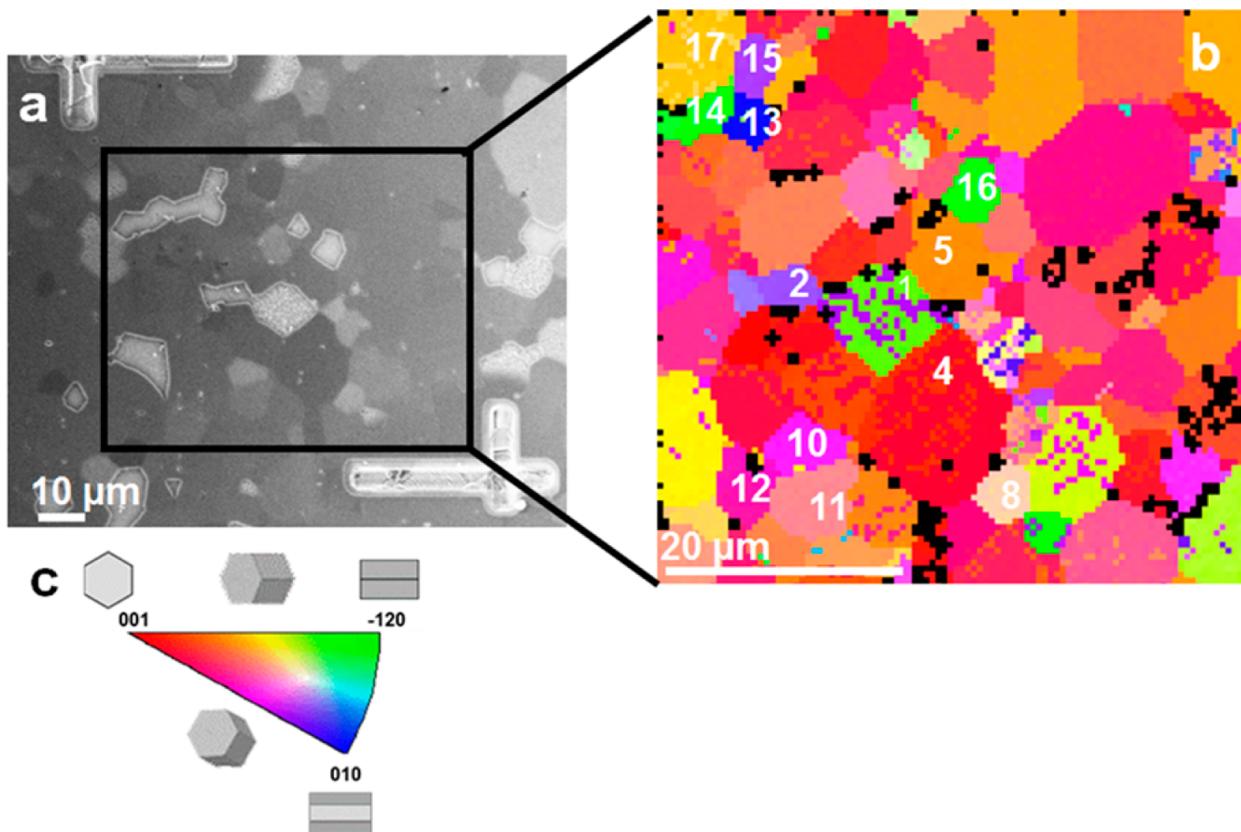


Figure 2. (a) SEM micrograph of the area chosen for EBSD investigations. (b) Inverse pole figure (IPF) of the area between the markers shown in (a). (c) Color legend for IPF with drawings explaining the respective crystallographic orientations.

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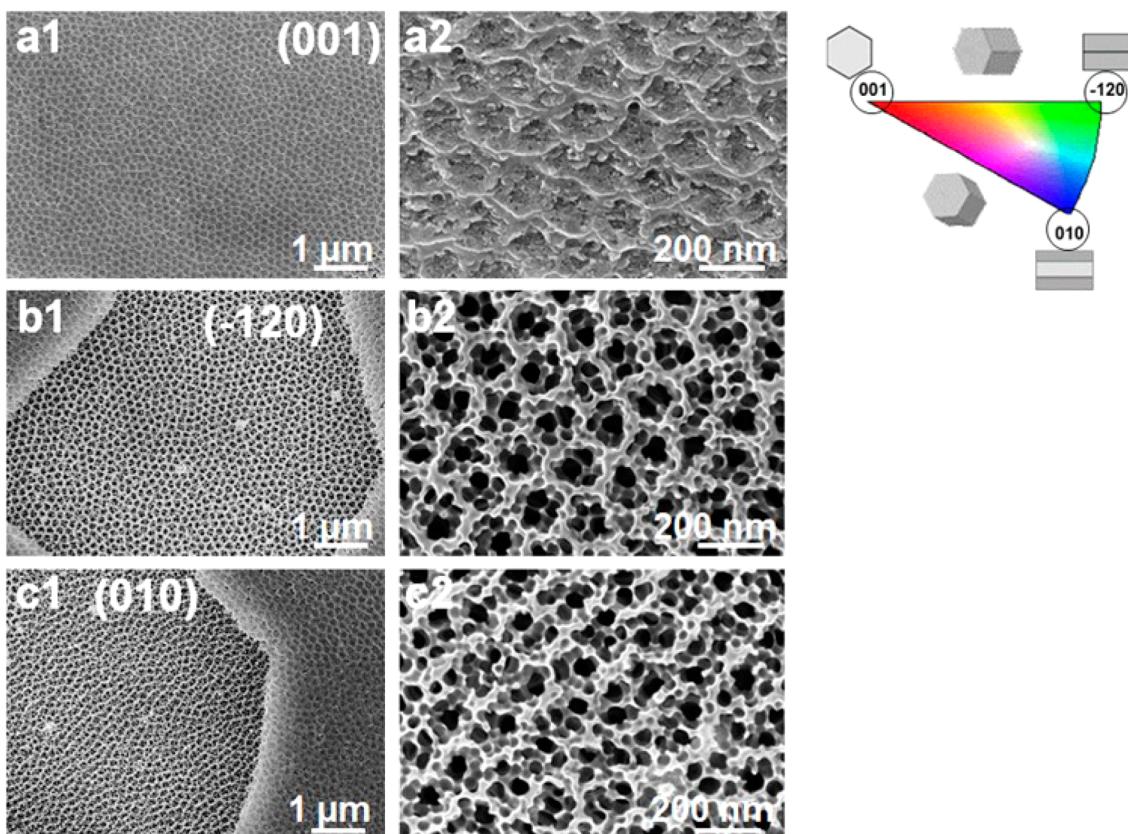


Figure 3. SEM micrographs of specific grains after anodization (in 1 M $(\text{NH}_4)_2\text{PO}_4$ + 0.5 wt % NH_4F at 20 V for 3 h) of the area marked in Figure 2a: (a) oxide on grain number 4 (red) corresponding to $\text{Ti}(001)$, (b) oxide on grain number 16 (green) corresponding to $\text{Ti}(-120)$, (c) oxide on grain number 13 (blue) corresponding to $\text{Ti}(010)$.

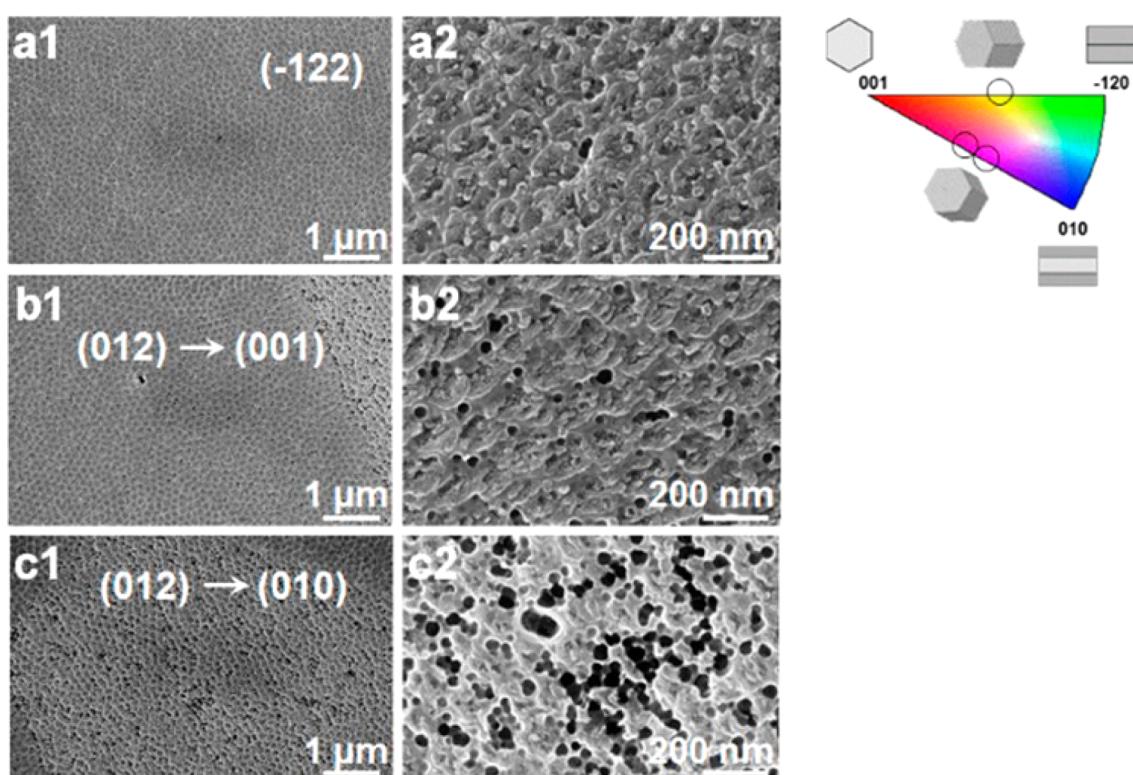


Figure 4. SEM micrographs of specific grains after anodization (in 1 M $(\text{NH}_4)_2\text{PO}_4$ + 0.5 wt % NH_4F at 20 V for 3 h) of the area marked in Figure 2a: (a) oxide on grain number 17 (yellow) corresponding to $\text{Ti}(-122)$, (b) oxide on grain number 12 (magenta) tilted toward $\text{Ti}(001)$, and (c) oxide on grain number 10 (light purple) tilted toward $\text{Ti}(010)$.

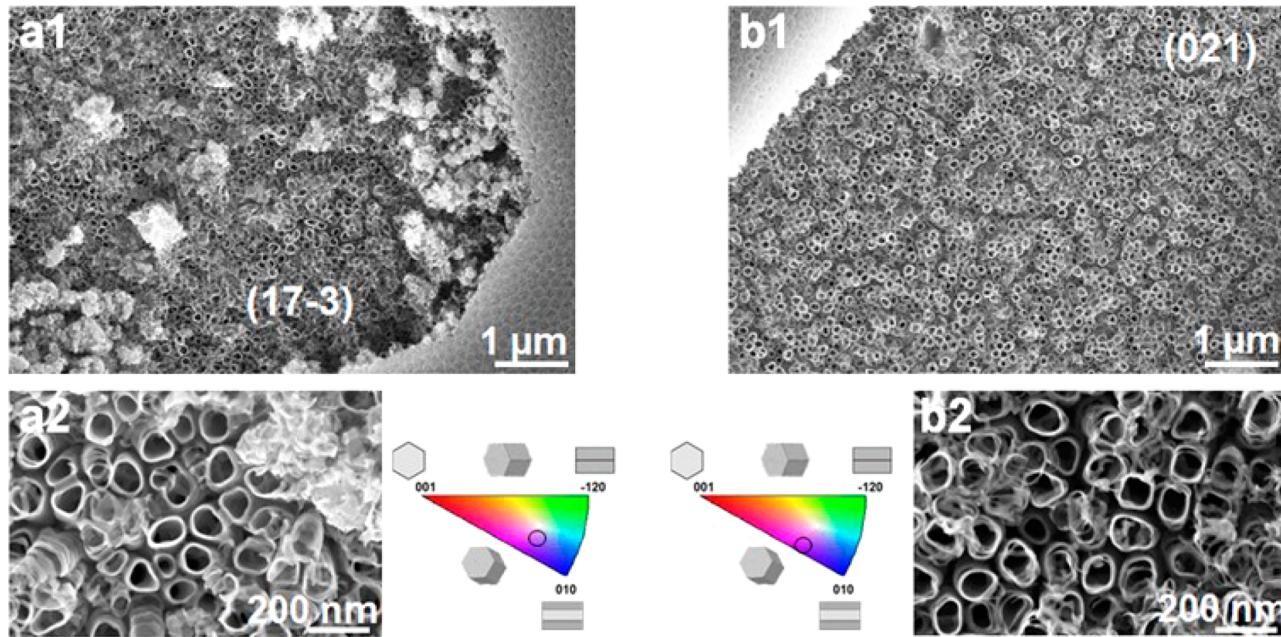


Figure 5. SEM micrographs of specific grains after anodization (in 1 M $(\text{NH}_4)_2\text{PO}_3 + 0.5 \text{ wt \% NH}_4\text{F}$ at 20 V for 3 h) of the area marked in Figure 2a: (a) oxide on grain number 2 (purple) corresponding to Ti(17-3), (b) oxide on grain number 15 (dark purple) corresponding to Ti(021).

the color legend and in the SE micrographs must be changed. The corrected version of Figure 3 is depicted with modified caption. On page 388, according to the corrected color legend, the magenta region corresponds to Ti(012) and the yellow region to Ti(-122). Figure 4 and its caption should be corrected as shown. Also on page 388, upon anodization completely open self-organized TiO_2 nanotubes exclusively form on top of (021)-oriented Ti substrate grains (deep purple) and not on Ti(111)-oriented grains as reported in the original article.¹ Figure 5 should be corrected as shown. Figure 8, on page 391,

■ REFERENCES

- (1) Leonardi, S.; Li Bassi, A.; Russo, V.; Di Fonzo, F.; Paschos, O.; Murray, T. M.; Efstathiadis, H.; Kunze, J. TiO_2 Nanotubes: Interdependence of Substrate Grain Orientation and Growth Characteristics. *J. Phys. Chem. C* **2012**, *116* (1), 384–392.
- (2) Figure drawn with <http://surfexp.fhi-berlin.mpg.de>.

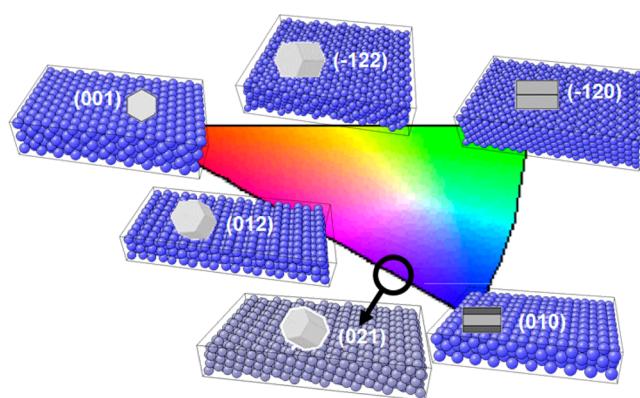


Figure 8. Schematic drawing of different crystallographic orientations of Ti grains² on top of which oxide films with varying morphologies have been examined in this paper.

showing structural characteristics of differently oriented grains at significant positions in the color legend, should be replaced by the figure depicted.

The new Figure 8 confirms that surfaces with orientations close to Ti(021) are characterized by a very open structure.

This erratum does not affect the discussion and conclusions reported previously.¹ However, these corrections are necessary for comparability of the data to other published work.