**Supporting information**

**The influence of calcination and reduction treatments on the adhesive and biocompatibility properties of TiZr nanotubes fabricated *via* anodizing**

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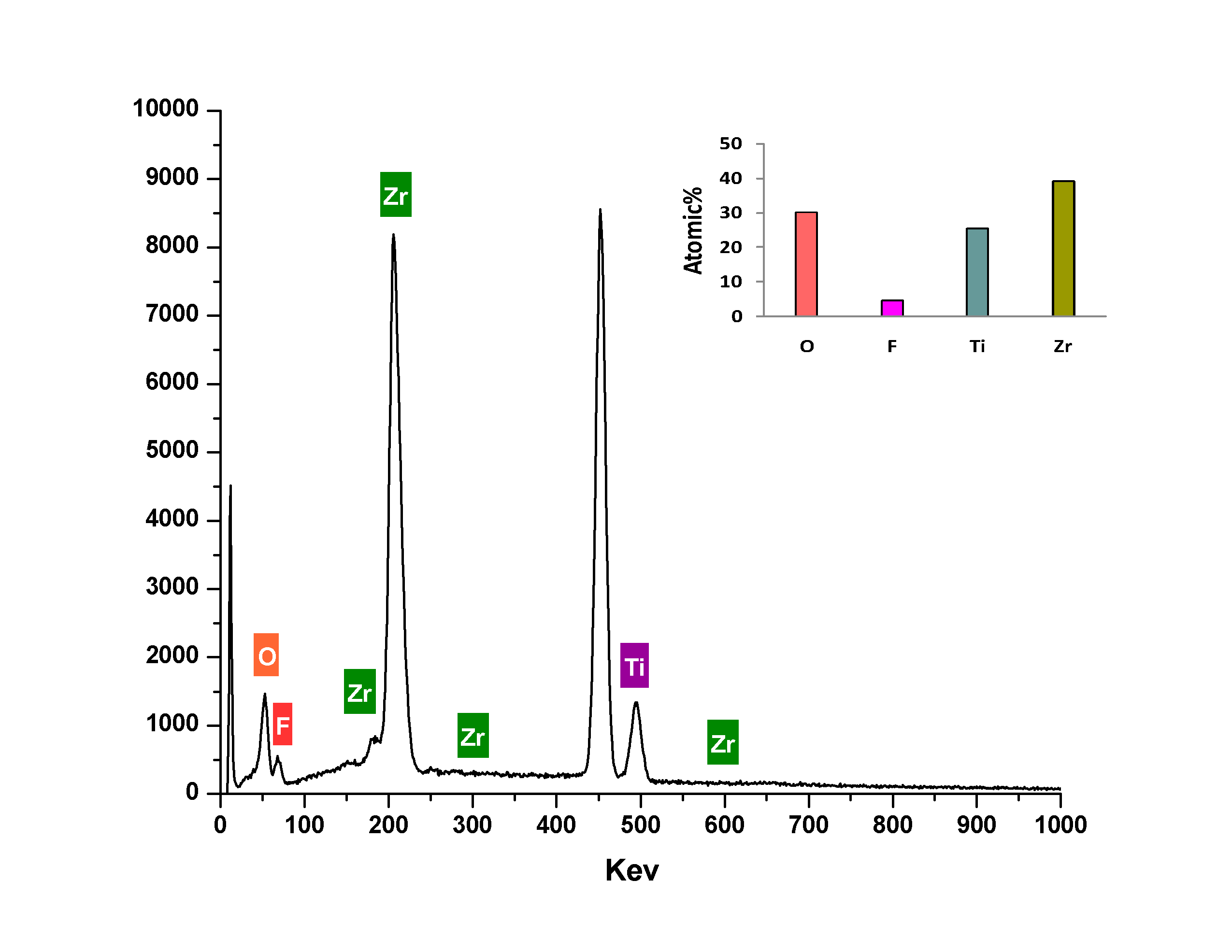
2 WW4-LKO, Department of Materials Science, Friedrich Alexander University of Erlangen Nurnberg, Martensstr. 7, 91058, Erlangen, Germany

3 Center for Surface Science and Nanotechnology University POLITEHNICA of Bucharest, SplaiulIndependentei nr. 313, 060042, Bucharest, Romania

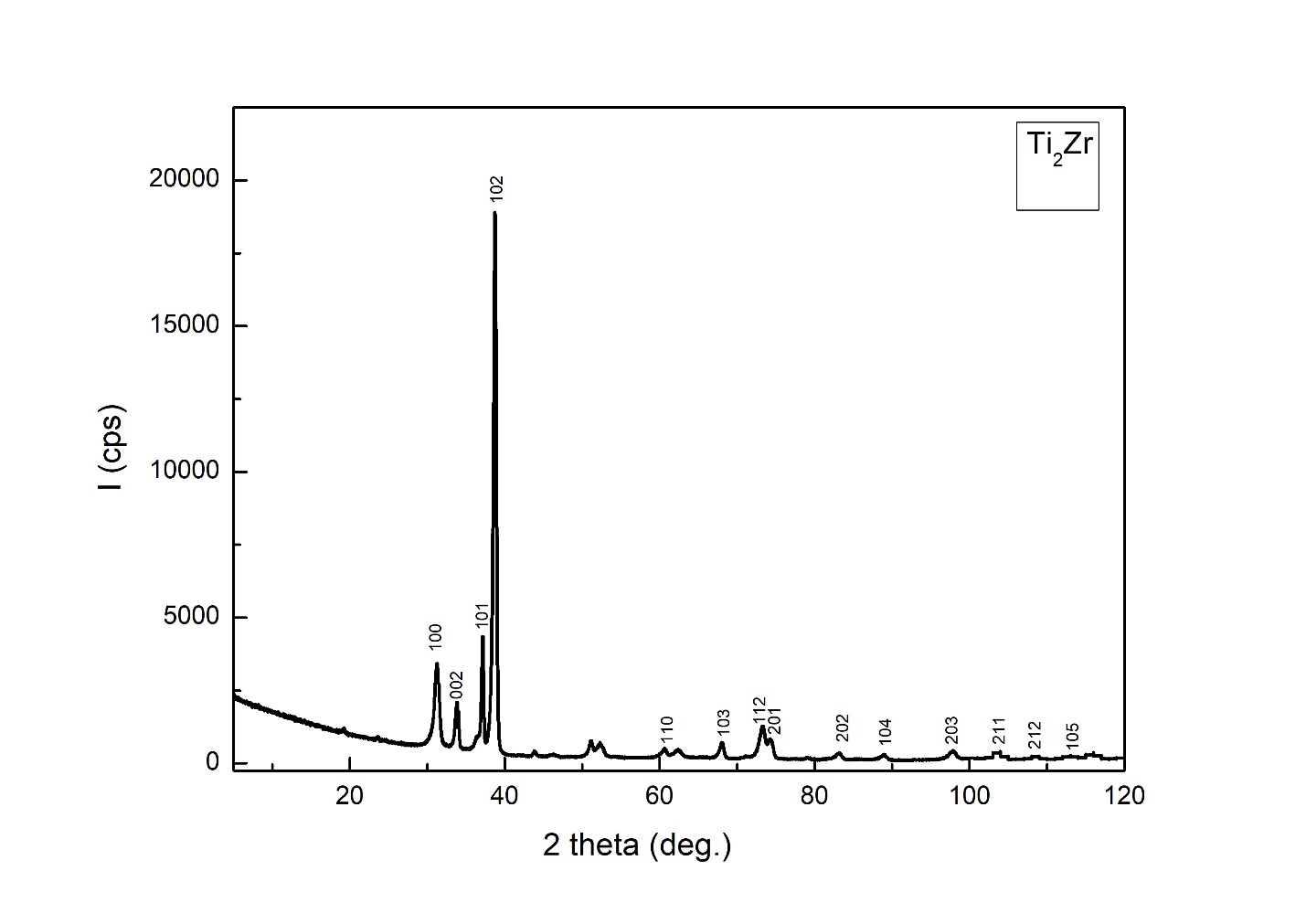
4 Department of Biochemistry and Molecular Biology, Faculty of Biology, University of Bucharest,SplaiulIndependentei91-95 , 050095, Bucharest, Romania

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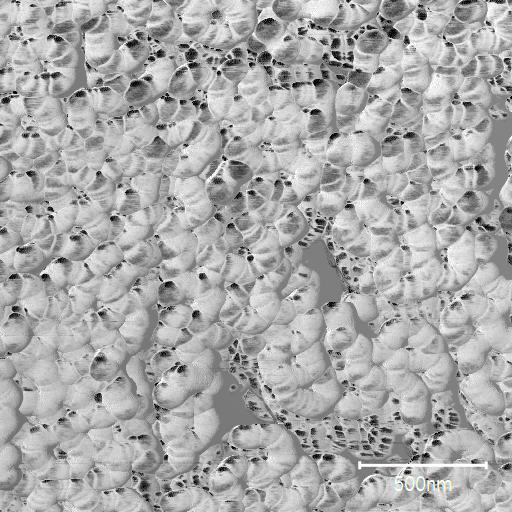
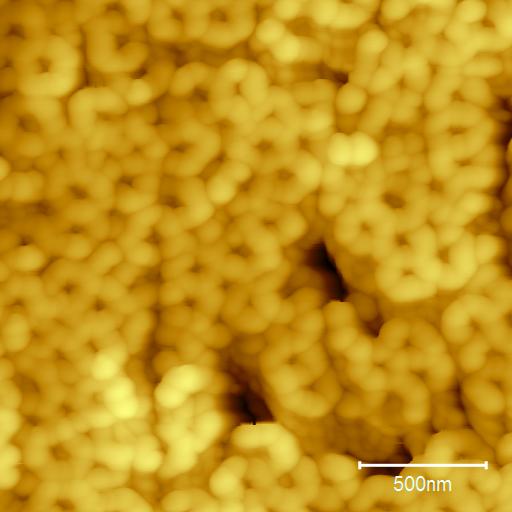
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**Fig. S1** EDX spectra of as formed nanotubes on TiZr alloy

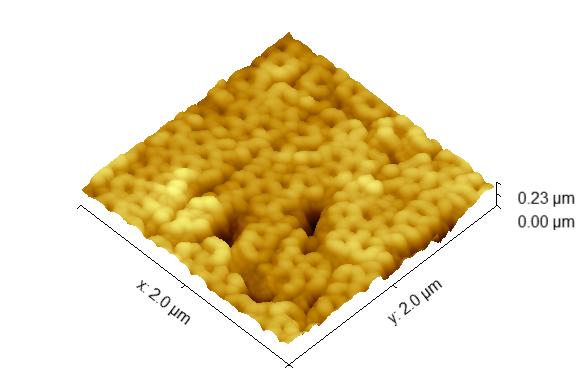


**Fig. S2** XRD spectra of the TiZr alloy substrate (substrate is Ti2Zr)

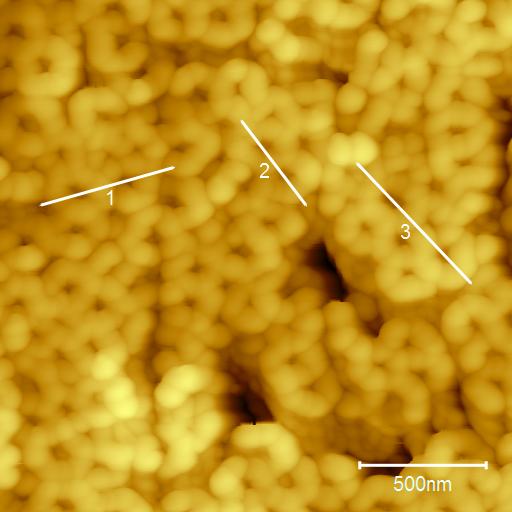
In the following figures the steps involved in the AFM investigation are shown, as an example for the reduced nanotubes.



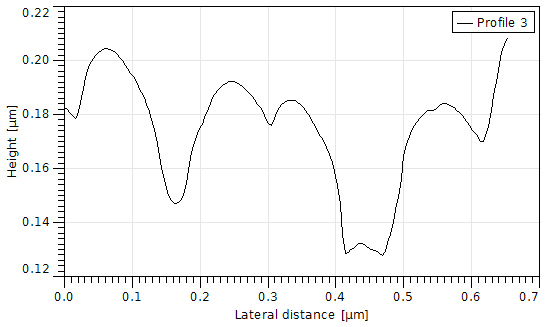
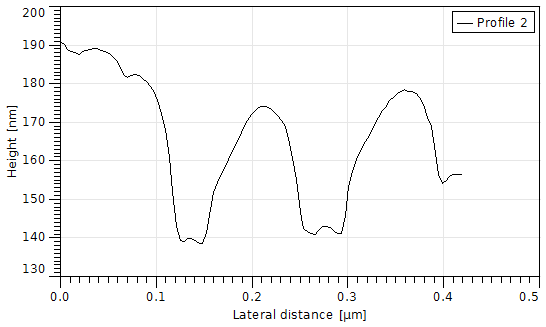
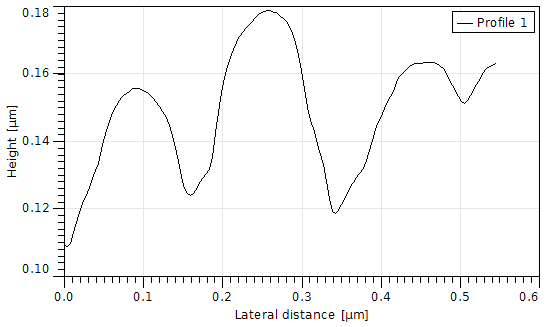
**Fig. S3** 2x2 um 2D AFM images of reduced nanotubes: a) Topography; b) Phase contrast



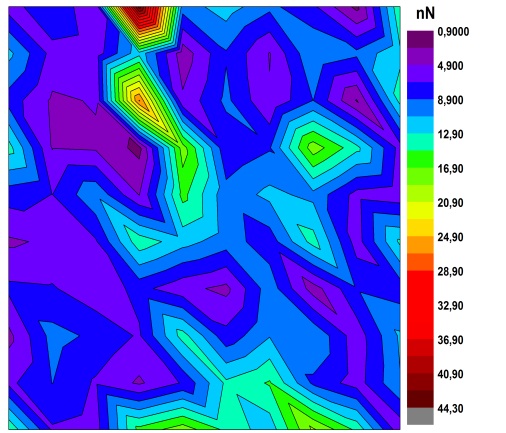
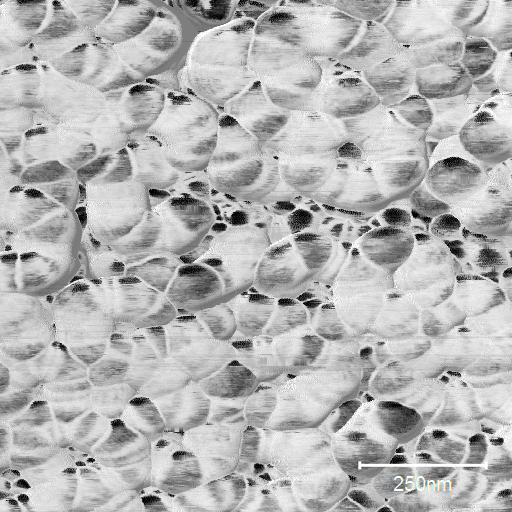
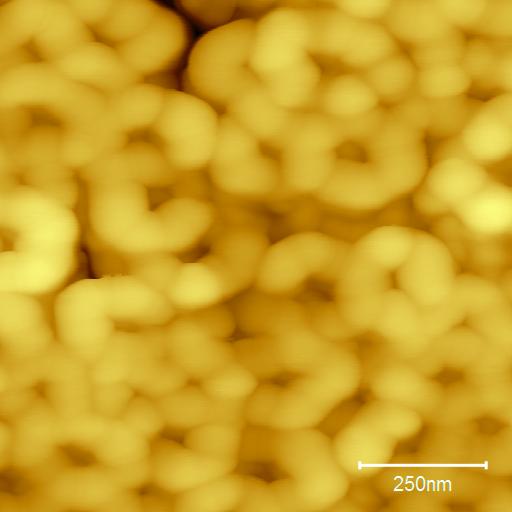
**Fig. S4** 2x2 um 3D AFM image of the reduced nanotubes



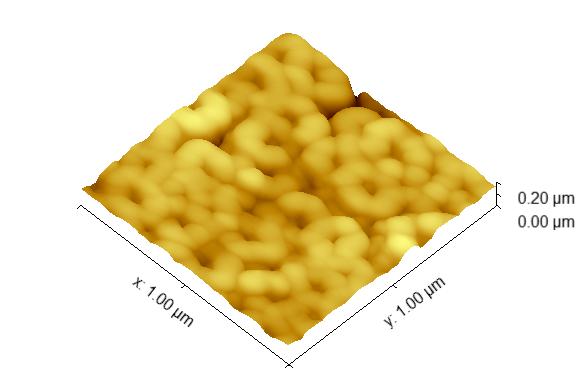
**Fig. S5** Directions of the traced profiles on the AFM 2D topography image shown in Fig S3.



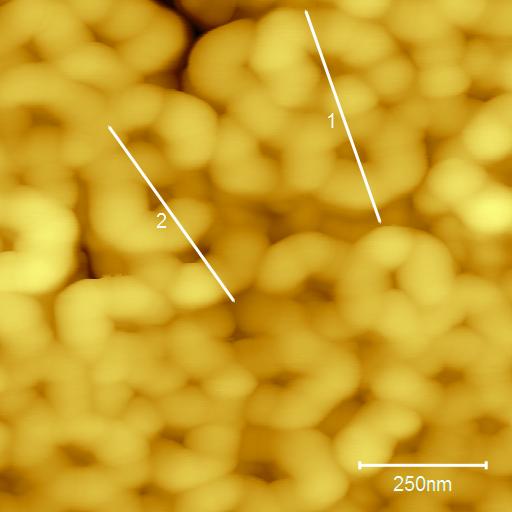
**Fig. S6** Graphical representations of the profiles marked in the figure S5



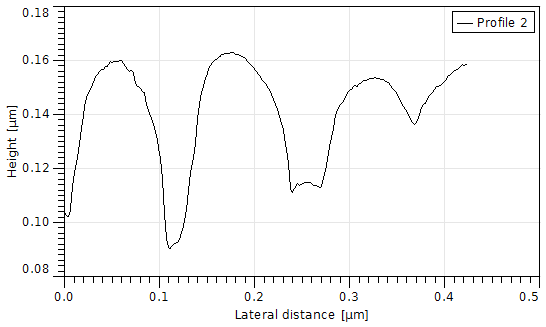
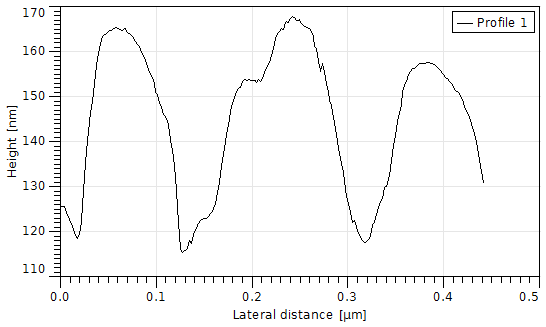
**Fig. S7** 1x1 um 2D AFM images of reduced nanotubes: a) Topography; b) Phase contrast; c) Adhesion Force Map



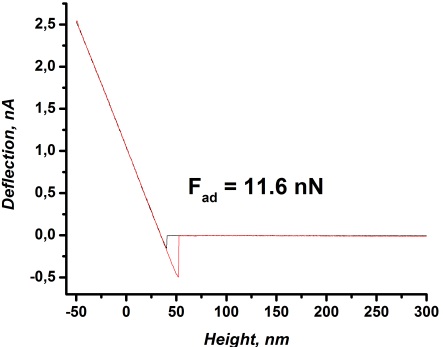
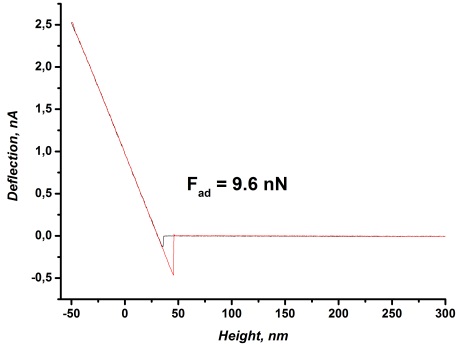
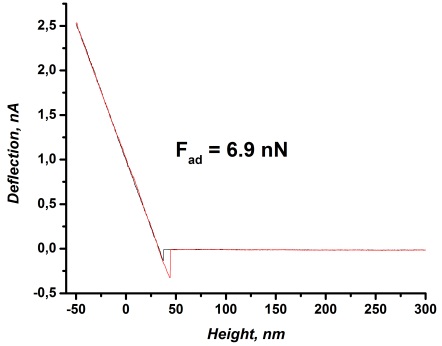
**Fig. S8** 1x1 um 3D AFM image of reduced nanotubes

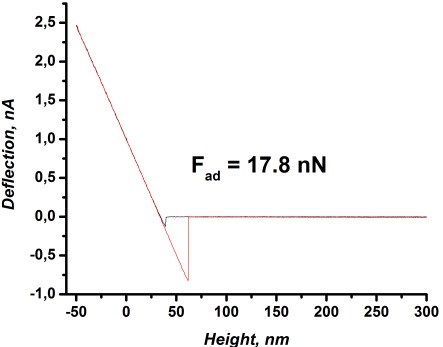
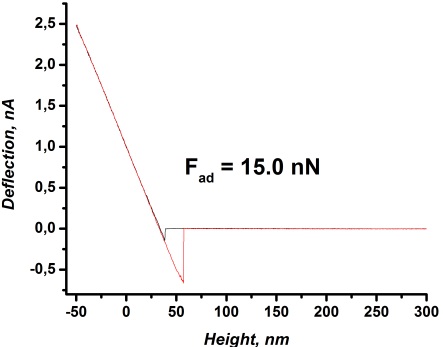


**Fig. S9** Directions of the traced profiles on the AFM 2D topography image

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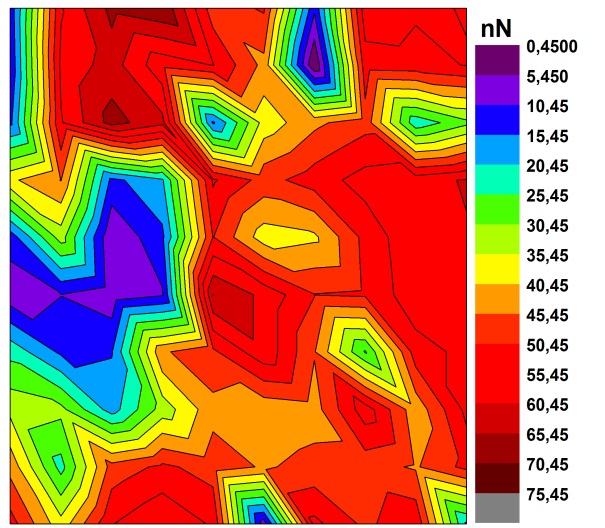
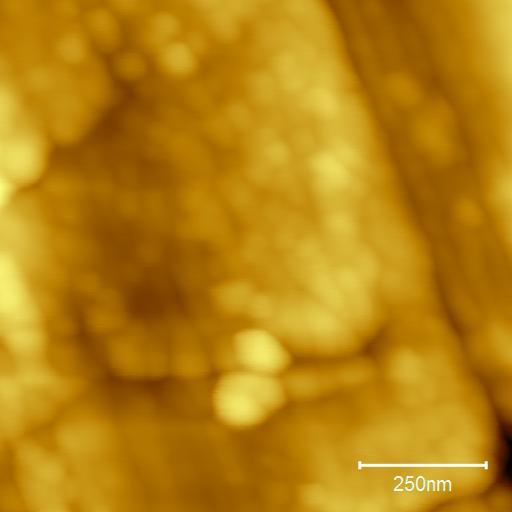
**Fig. S10** Graphical representations of the marked profiles



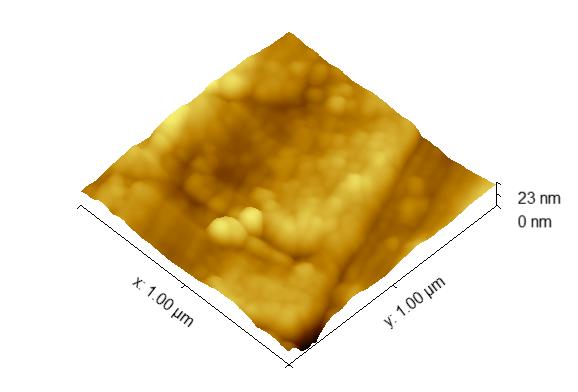


**Fig. S11 .** Force-distance curves

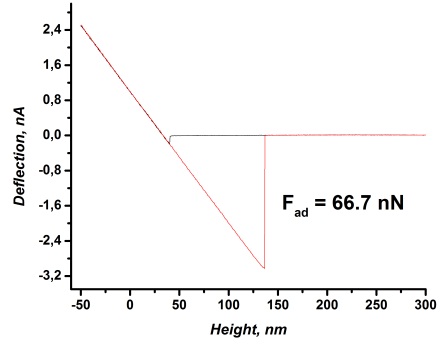
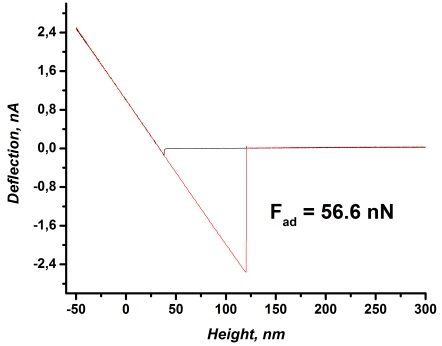
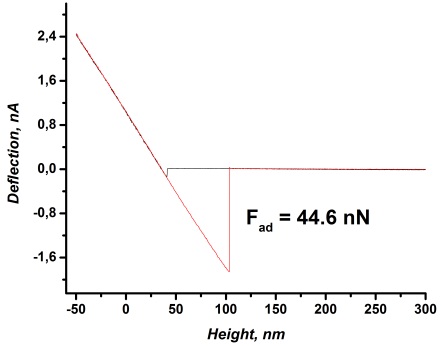
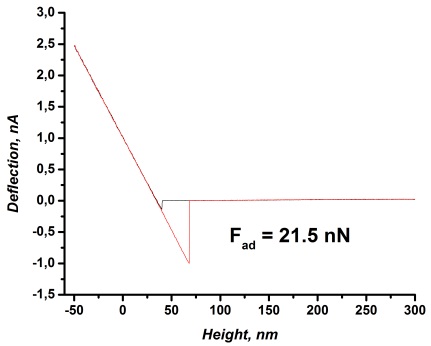
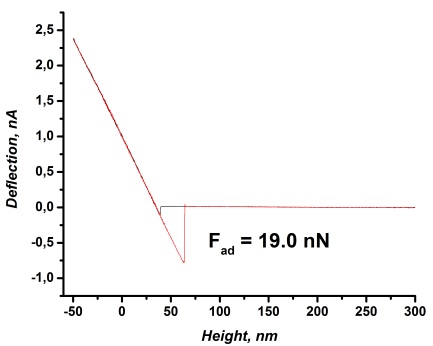
***Analysis of the substrate – reduced TiZr***



**Fig. S12** 1x1 um 2D AFM images of the reduced TiZr substrate: a) Topography; b) Adhesion Force Map



**Fig. S13** 1x1 um 3D AFM image of reduced TiZr substrate.



**Fig. S14** Force-distance curves for the reduced TiZr substrate.