

Surface ionic states and structure of titanate nanotubes

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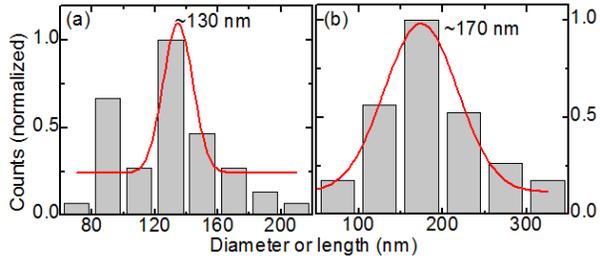
Supplementary information

STab 1: Literature review of the preparation of zinc titanates.

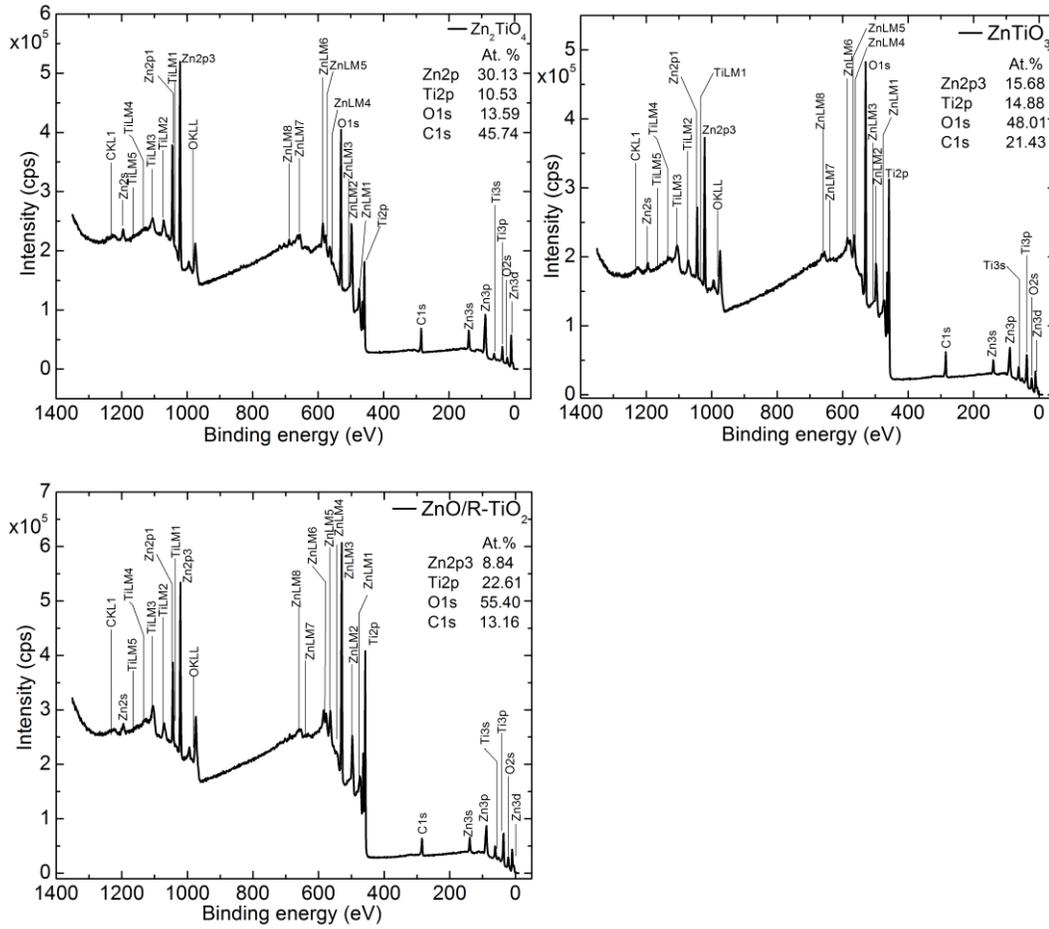
Type of reaction	Compound(s)	Temp (°C)	Duration	Phase information/comment	Ref
Citrate method	Zinc titanate	720	12h	-	[1]
Sol-gel	<i>c</i> -ZnTiO ₃	700	5h	Rh-ZnTiO ₃	[2]
	ZnTiO ₃	700	2h	Amorphous-ZnTiO ₃ , Zn ₂ TiO ₄ , R-TiO ₂	[3]
	Crystalline-ZnTiO ₃	900	2h	Zn ₂ TiO ₄ , R-TiO ₂	[3]
	<i>h</i> -ZnTiO ₃	800	NA	Zn ₂ TiO ₄ , R-TiO ₂	[4]
	nanocrystalline ZnTiO ₃	400		Amorphous	[5]
	<i>c</i> -ZnTiO ₃	800	3h	R-TiO ₂ , Zn ₂ TiO ₄ : 27.4, 42.7°	[5]
	<i>c</i> -ZnTiO ₃	900 W, μ-wave heating	10 min	Broad and low intensity peaks oriented in (311) plane	[5]
	Rh-ZnTiO ₃	500	1h	<i>c</i> -ZnO, <i>c</i> -Zn ₂ TiO ₄	[6]
Sol-gel/Pechini	ZnTiO ₃	800	6h	Zn ₂ TiO ₄ , R-TiO ₂	[7]
Pechini	ZnTiO ₃	800	6h	R-TiO ₂ , Zn ₂ TiO ₄	[8]
High energy ball milling	ZnTiO ₃ , Zn ₂ TiO ₄	-	3h	-	[9]
	ZnTiO ₃ , Zn ₂ TiO ₄	-	6h	R-TiO ₂	[9]
Solid-state	Perovskite ZnTiO ₃	800	12h	Zn ₂ TiO ₄ , R-TiO ₂	[10]
Co-precipitation	Zinc titanate	700	2h	Secondary phases	[11]

References

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c-cubic; Rh-Rhombohedral; R-rutile;



SFig 1: (a) diameter and (b) length of the grains observed for ZT14 after calcination.



SFig 2: X-ray photoelectron spectra depicting survey of elements. The atomic percentages are shown on the image for the three compounds.