

3D Flower-like TiO_2 Nanostructures: Anatase-To-Rutile Phase Transformation and Photoelectrochemical Application

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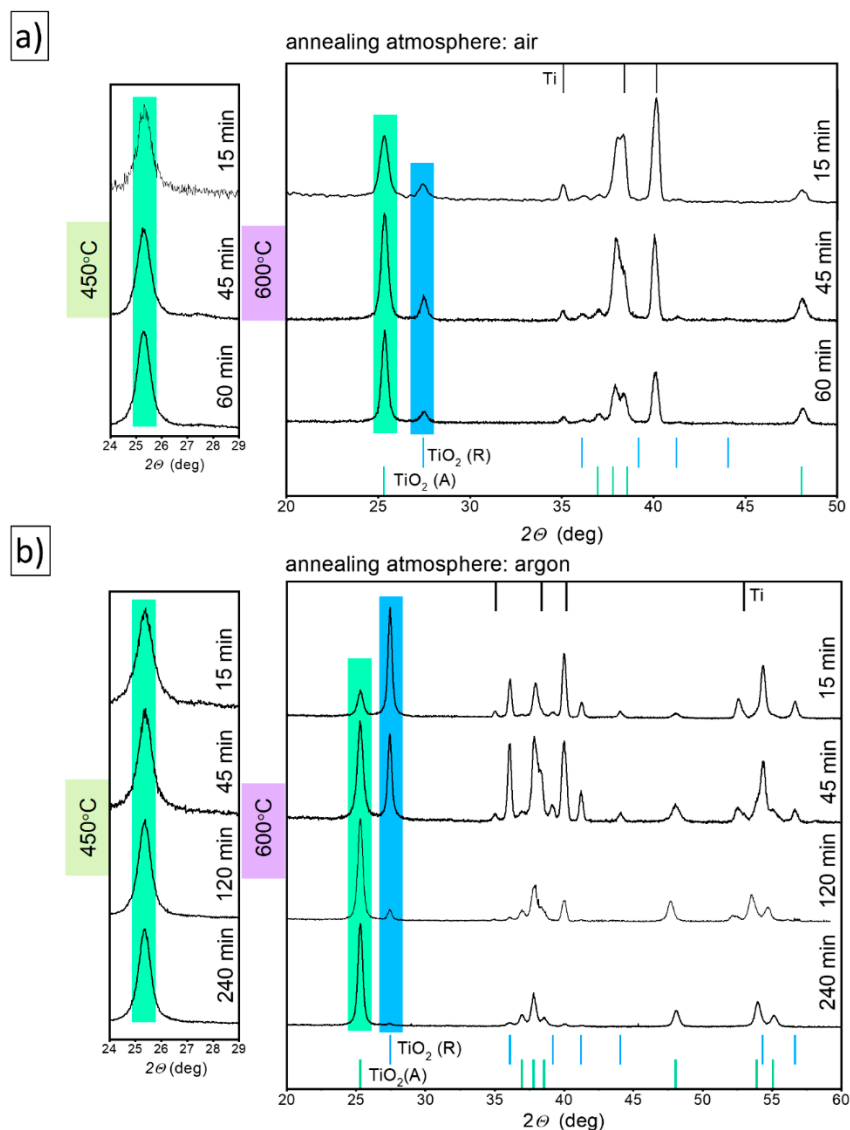


Figure S1. XRD data of nanostructures obtained at various reaction times and temperature annealed in (a) air and (b) argon atmosphere.

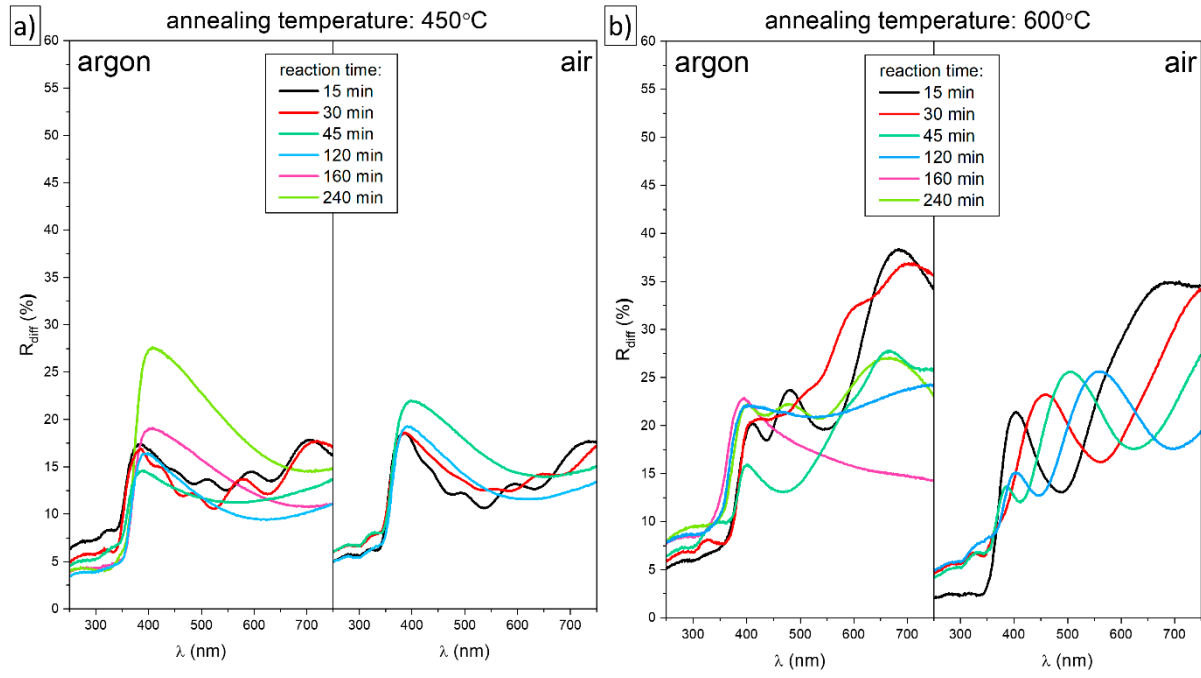


Figure S2. Reflectance spectra R_{diff} for 3D flower-like nanostructures after annealing in argon and the air at (a) 450 and (b) 600°C.

Table S1. Optical bandgap values for flower-like 3D nanostructures annealed at various conditions

atmosphere	reaction time (min)	Optical bandgap value, E_{opt} (± 0.05 eV)					
		$\frac{dR_{diff}}{d\lambda}$		$(KMh\nu)^{1/\gamma}$			
		450	600	$\gamma = 1/2$		$\gamma = 2$	
				450	600	450	600
argon	15	3.48	3.24	3.25	3.10	3.36	3.48
	30	3.44	3.21	3.36	3.11	3.40	3.62
	45	3.46	3.23	3.33	3.14	3.32	3.53
	60	3.46	3.35	3.21	2.64	3.32	3.25
	120	3.40	3.37	3.31	3.25	3.36	3.33
	160	3.40	3.42	3.33	3.27	3.36	3.36
	240	3.32	3.32	3.24	3.19	3.32	3.26
air	15	3.40	3.24	3.37	3.23	3.29	3.31
	30	3.38	3.29	3.24	3.29	3.29	3.34
	45	3.35	3.29	3.26	3.20	3.29	3.44
	60	3.35	3.17	3.20	3.10	3.32	3.45