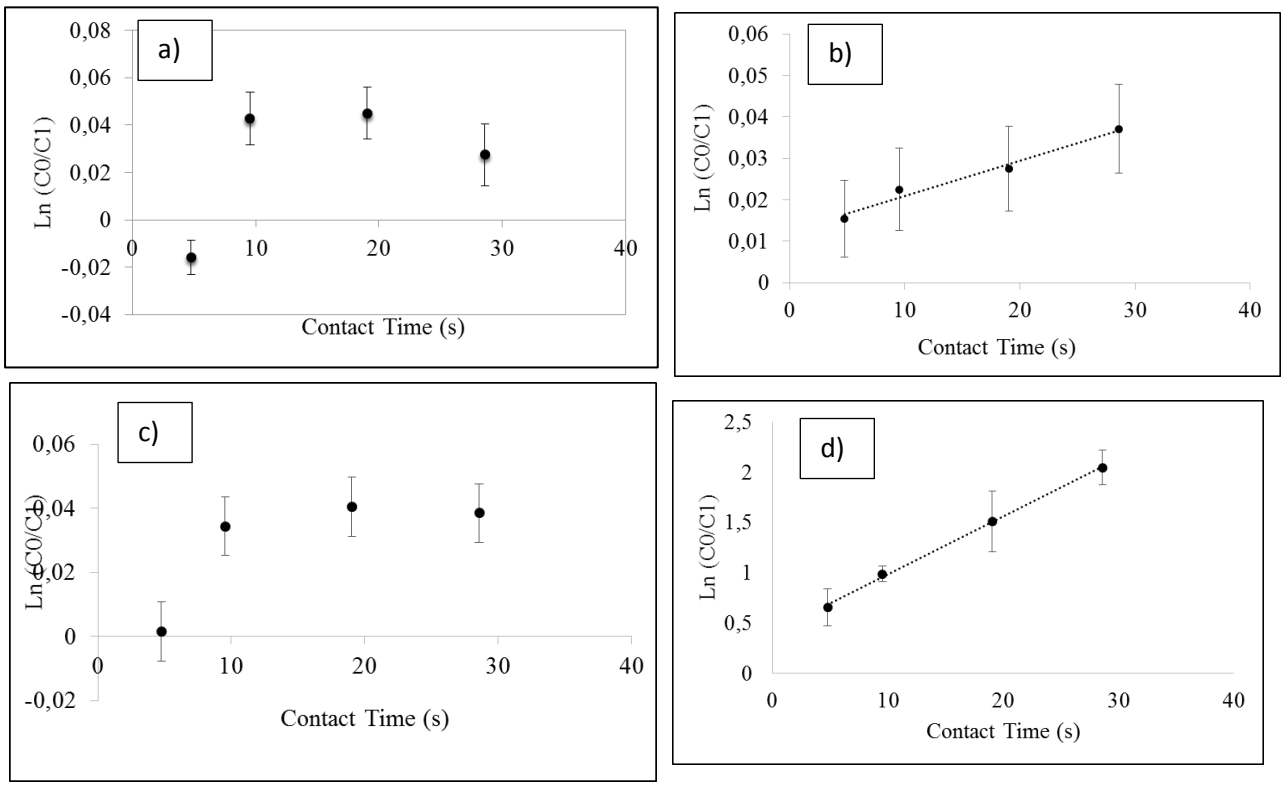
Electronic Supplementary Material (ESI) for Environmental Science: Nano.

Supporting Information

Sample state	Microscopy	Structural studies	Photocatalysis	Chemical identification	Ageing	NPs release in the air
Powders	SEM-EDS, TEM-EDS, cryo-TEM (shape, size)	XRD (anatase, rutile)	EPR (free radicals generated)	SEM-EDS TEM-EDS (elemental composition)		
Dispersion (powder 70%w/w and water)		SANS SAXS (dispersion, size in liquid state, coating)				
Paints applied on substrate	SEM-EDS (shape, size)		PTRMS (VOCs degraded and generated)	XPS (chemical bond) EDS (elemental composition)	UV Water spray (outdoor)	Abrasion, ELPI (granulometry)

SI 1: Table summarizing all the characterization techniques used to study powders, dispersions and paints applied on substrates.



SI 2: Determination of the kinetic constant of the xylene decay as a function of the contact time between samples and xylene gas for a) non-aged PM1 paint, b) non-aged PM2 paint, c) aged PM1 paint and d) ages PM2 paint.