materials

MDPI

Supplementary Material

Study of Perfluorophosphonic Acid Surface Modifications on Zinc Oxide Nanoparticles

Rosalynn Quiñones*[1], Deben Shoup[1], Grayce Behnke[1], Cynthia Peck[1], Sushant Agarwal[2], Rakesh K. Gupta[2], Jonathan W. Fagan[3], Karl T. Mueller[3,4], Robbie J. Iuliucci[5], and Qiang Wang[6,7]

[1]Department of Chemistry, Marshall University, Huntington, WV 25755, USA
[2]Department of Chemical & Biomedical Engineering, West Virginia University, Morgantown, WV 26506, USA
[3]Department of Chemistry, Pennsylvania State University, State College, PA 16802, USA
[4]Physical and Computational Sciences Directorate, Pacific Northwest National Laboratory, Richland, WA 99352, USA
[5] Chemistry Department, Washington and Jefferson College, Washington, PA 15391, USA
[6]Department of Physics and Astronomy, West Virginia University, Morgantown, WV 25606, USA
[7]Shared Research Facilities, West Virginia University, Morgantown, WV 25606, USA
*Corresponding author email: quinonesr@marshall.edu; Phone: 1+ (304) 696-6731, Fax: 1+ (304) 696-3243

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Table S1. Binding energies determined by XPS.

	ZnO control	PFPDPA	5FBPA	F_{21}DDPA
	Binding energy (eV)	Binding energy (eV)	Binding energy (eV)	Binding energy (eV)
Zn2p3/2	1022.0	1021.9	1021.9	1021.9
Zn2p1/2	1045.1	1045.0	1045.0	1044.9
O1s	530.6	530.6	530.4	530.6
	531.8	531.9	532.0	531.7
C1s		284.8	287.9	293.3
		285.5	285.6	291.1
		287.7		288.4
				285.5
P2p		133.6	134.1	134.1
F1s		688.0	688.1	688.2
		685.0	685.0	684.7

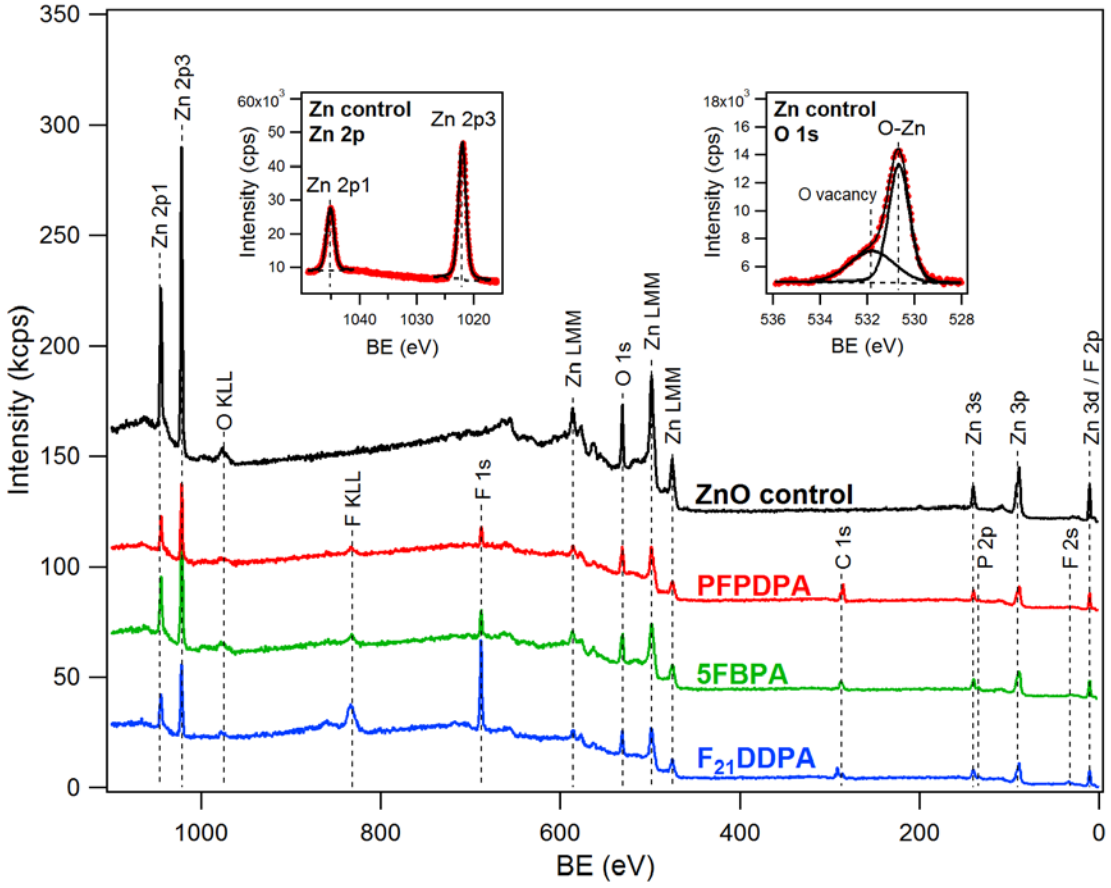

Figure S1. XPS survey spectra of (a) ZnO nanoparticles unmodified (control) (black line), (b) PFPDPA on ZnO (red line), (c) 5FBPA on ZnO (green line), and (d) F_{21}DDPA on ZnO nanoparticles (blue line). High-resolution core level spectra of ZnO unmodified (black) for Zn2p and O1s are also shown.

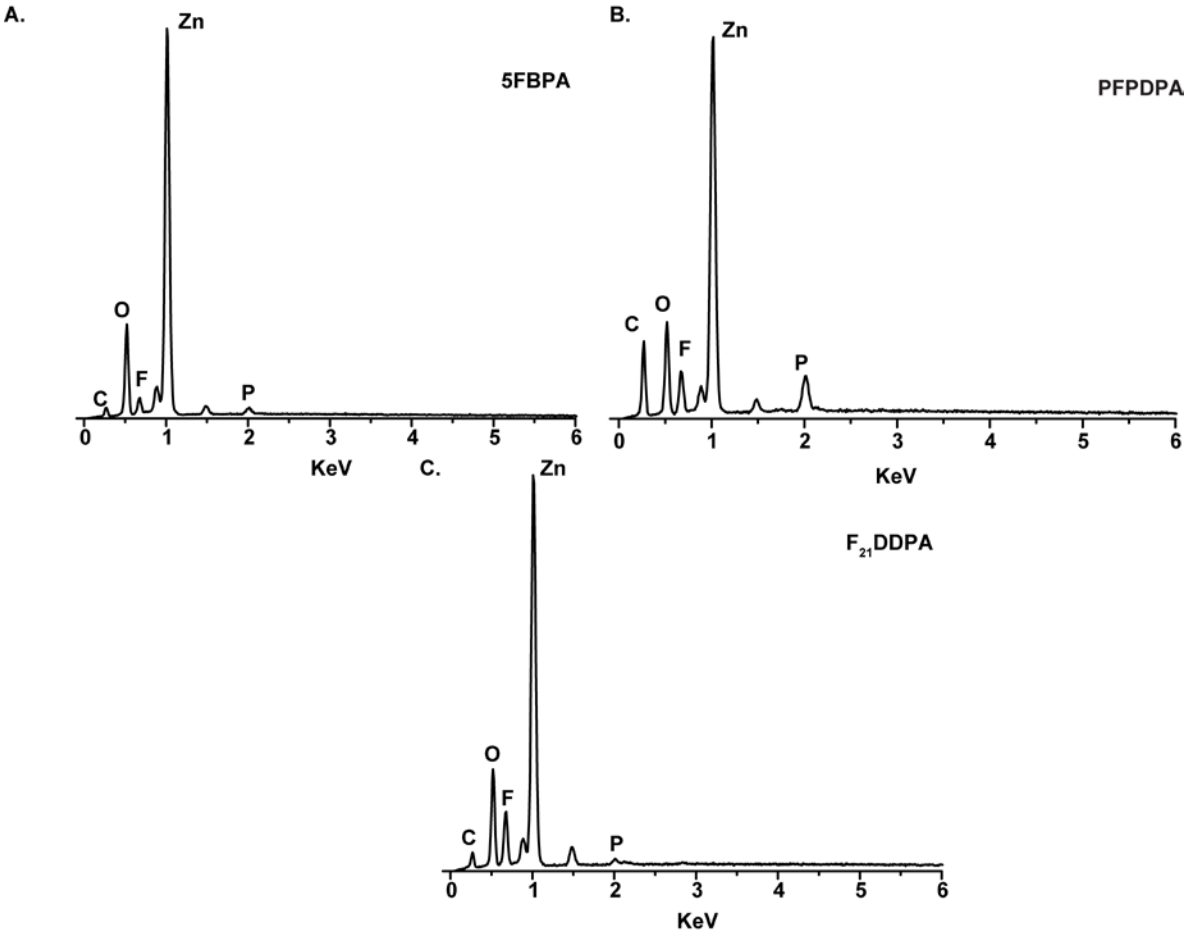

Figure S2. EDS spectra for (a) 5FBPA, (b) PFPDPA, and (c) F_{21}DDPA modified ZnO nanoparticles.