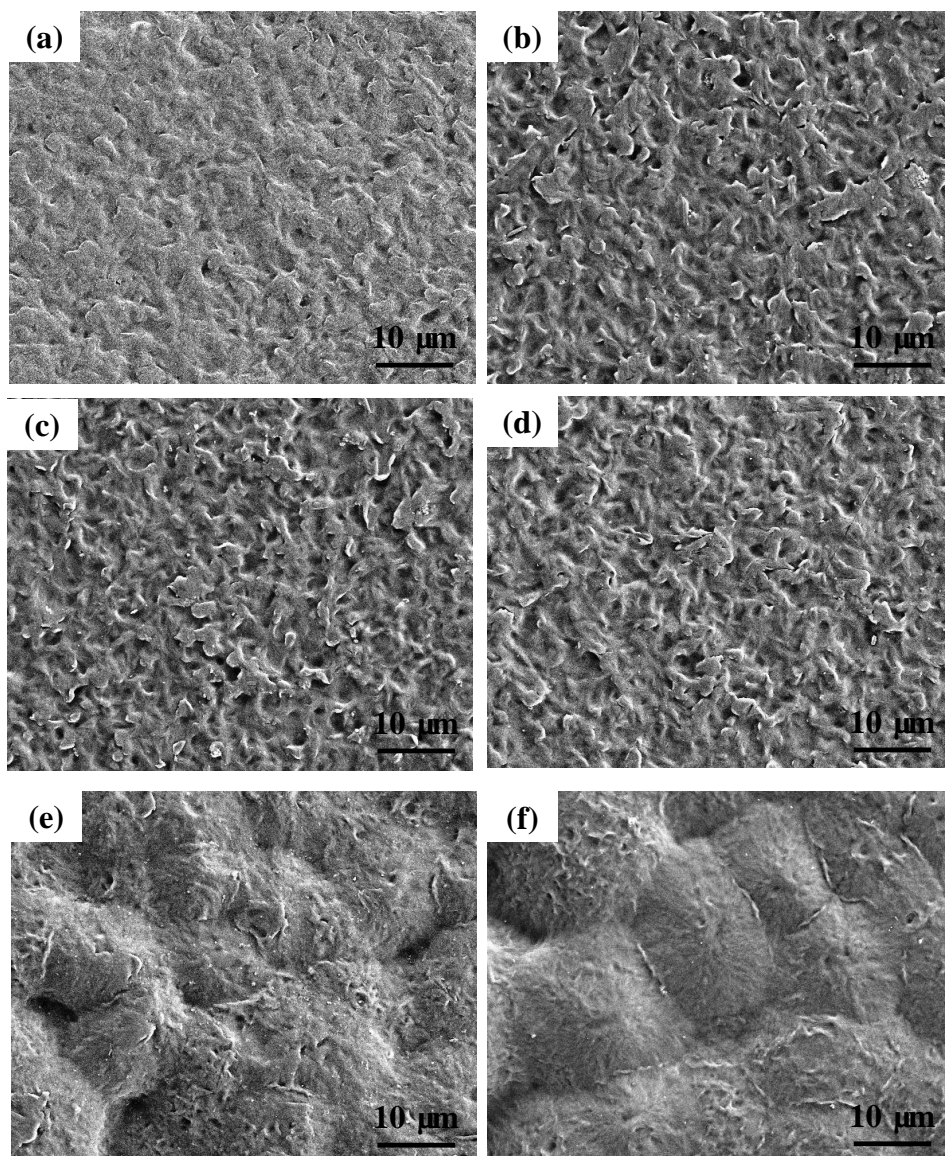


Figure S1



**Figure S1.** FESEM (magnification: 1000 ×) images of surface morphology of (a) bare LLDPE, (b) LLDPE/100T, (c) LLDPE/75T25Z, (d) LLDPE/50T50Z, (e) LLDPE/25T75Z and (f) LLDPE/100Z.

Figure S2

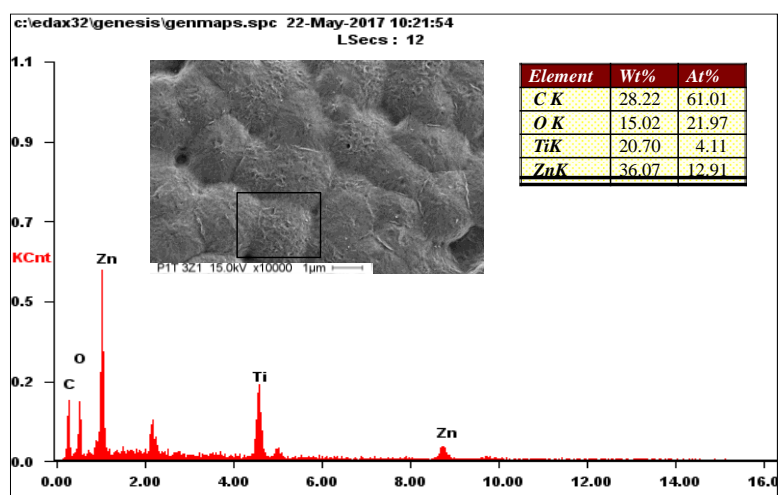


Figure S2. FESEM image and EDX spectrum of LLDPE/75T25Z

Figure S3

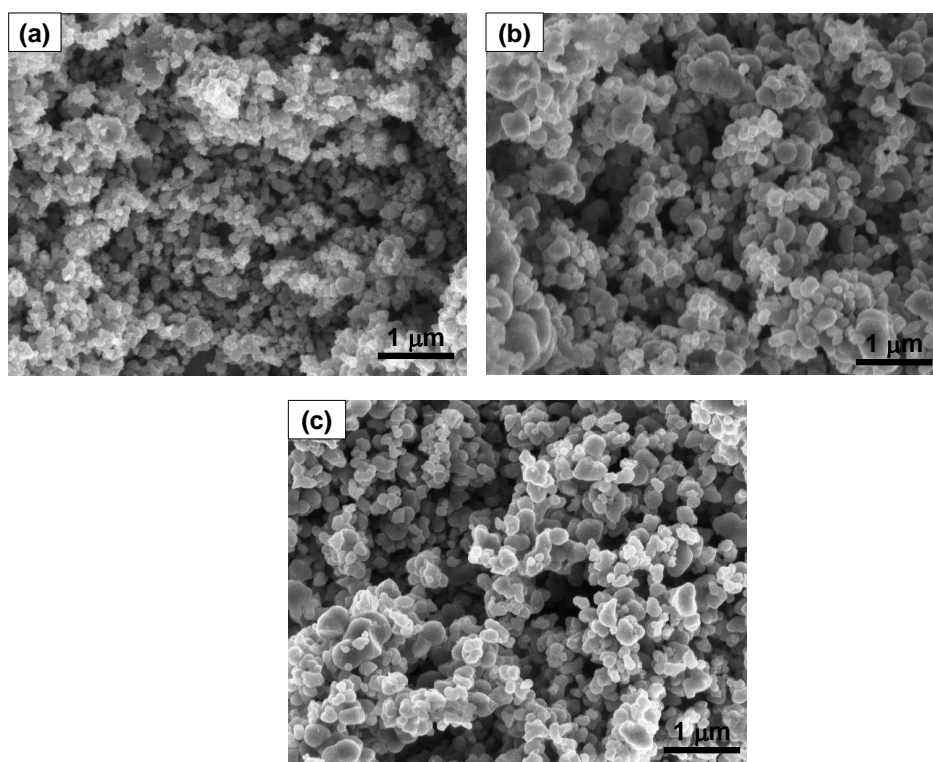


Figure S3. FESEM images of (a) 100T, (b) 100Z and (c) 25T75Z

Table S1

**Table S1.** Phase present in 100T, 75T25Z, 50T50Z, 25T75Z and 100Z nanoparticles as obtained in XRD analysis

Sample	Phase present
100T	TiO <sub>2</sub> (anatase)
75T25Z	Anatase, hexagonal zinc titanate (ZnTiO <sub>3</sub> ), TiO <sub>2</sub> (rutile)
50T50Z	Cubic zinc titanate (c-Zn <sub>2</sub> Ti <sub>3</sub> O <sub>8</sub> )
25T75Z	c-Zn <sub>2</sub> Ti <sub>3</sub> O <sub>8</sub> , ZnO (zincite)

Table S2

**Table S2.** At% of Zn an Ti of the corresponding metal oxide

<b>Metal oxide</b>	<b>At%</b>	
	<b>Zn</b>	<b>Ti</b>
<b>100T</b>	0	33.01
<b>75T25Z</b>	11.13	32.23
<b>50T50Z</b>	20.09	23.11
<b>25T75Z</b>	31.11	10.48
<b>100Z</b>	52.03	0