

Figure S1. SEM image and particles size distribution of the synthesized (A,C) commercial (B,D) titanium dioxide. d = mean diameter, SD = standard deviation and N = number of particles counted.

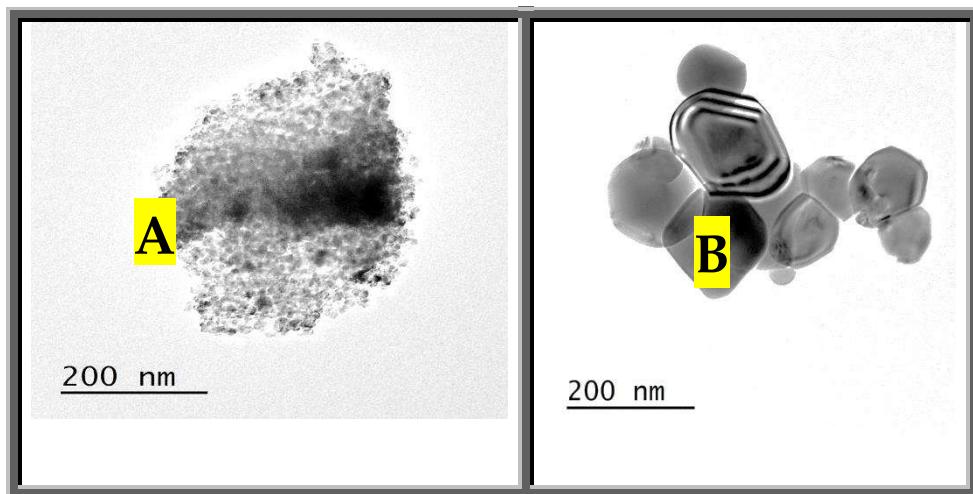


Figure S2. TEM image of the synthesized (a) commercial (b) titanium dioxide.

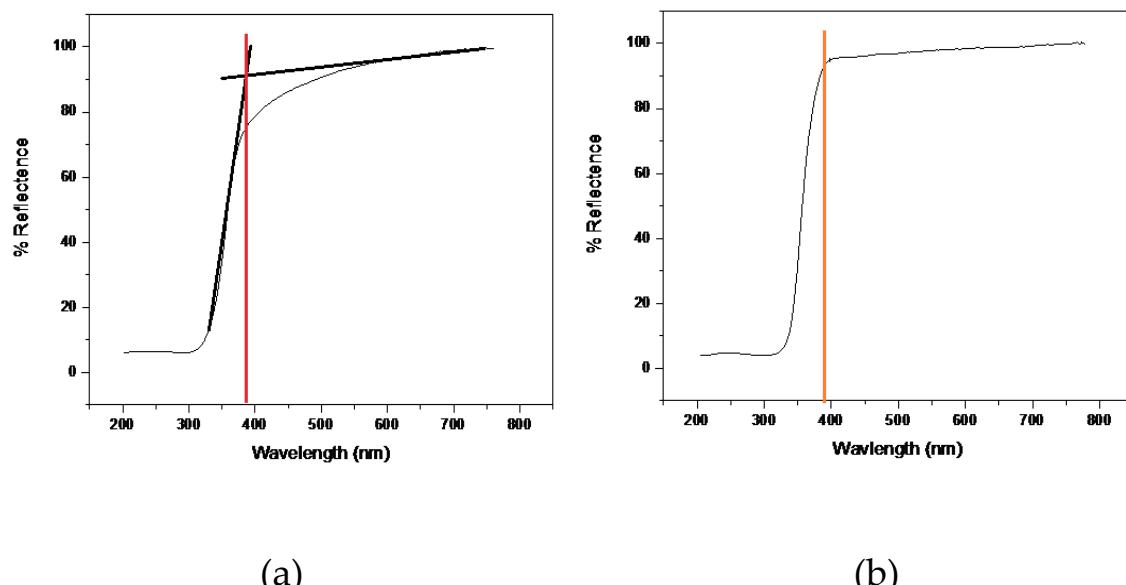


Figure S3. Diffuse reflectance UV-Vis spectra of synthesized TiO_2 (A) and commercial TiO_2 (B).

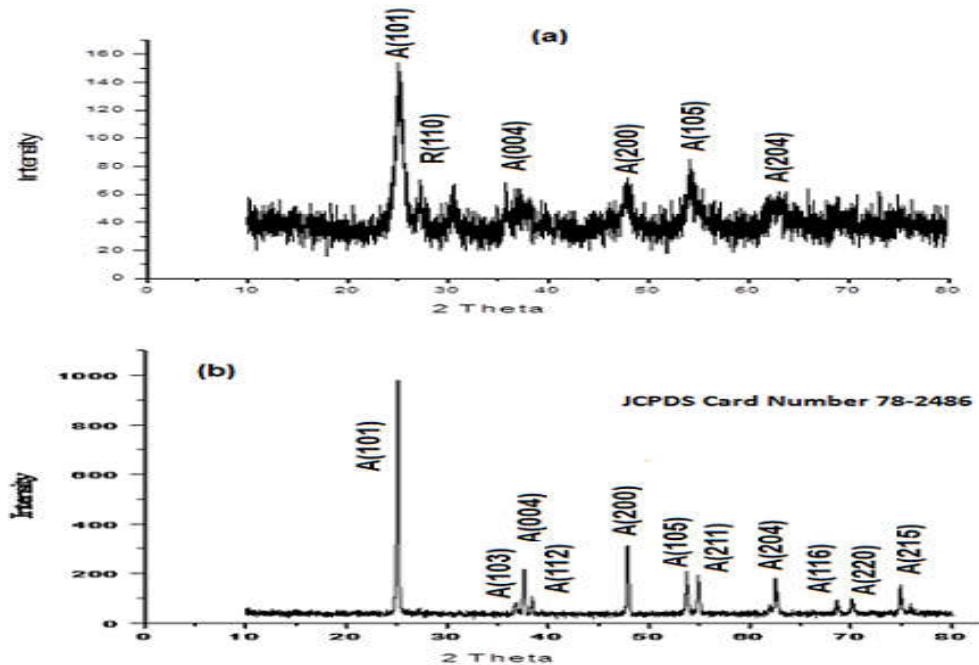


Figure S4. XRD patterns of synthesized (a) and commercial (b) TiO_2

Table S1. Summary of histopathologic lesions in the liver and kidneys of rats treated with water contaminated with methomyl and dimethoate after remediation with TiO_2 (nano)/ $\text{H}_2\text{O}_2/\text{UV}$.

Organ	liver					kidney			
lesions	vacuolation	inflam	congestion	Tubular deg	Renal cast	inflam	Tubular dilat	congestion	
Control	• 1	-	+	-	+	-	-	-	
	• 2	-	-	-	-	-	-	-	
	• 3	+	-	+	-	-	-	-	
	• 4	-	-	-	-	-	-	-	
	• 5	-	-	-	-	+	-	+	
	• 6	-	-	+	-	-	-	-	
dimethoate	• 1	++	+	-	+	+	-	-	
	• 2	++	-	+	-	+	-	-	
	• 3	++	-	+	+	+	-	+	
	• 4	+	+	-	+	-	-	-	
	• 5	+	-	-	+	-	+	-	
	• 6	++	-	-	+	-	+	-	
Methomyl	• 1	+	-	+	+	-	+	+	
	• 2	+	+	-	+	-	++	+	
	• 3	+	+	-	-	+	+	+	
	• 4	++	+	+	+	-	+	-	
	• 5	+	+	-	-	-	-	-	
	• 6	+	+	-	+	-	+	-	
TiO_2 (nano) //(nano)/ $\text{H}_2\text{O}_2/\text{UV}$	• 1	+	-	+	+	-	-	+	
	• 2	-	+	+	-	-	+	+	
	• 3	+	-	+	-	-	-	-	
	• 4	+	-	+	+	-	-	+	
	• 5	+	-	-	+	-	-	+	
	• 6	++	-	+	+	-	-	+	

deg: degeneration; inflam: inflammation; dil: dilataion; -Normal; + Mild; ++ Moderate; +++ Severe