

# Biocompatibility evaluation of TiO<sub>2</sub>, Fe<sub>3</sub>O<sub>4</sub>, and TiO<sub>2</sub>/Fe<sub>3</sub>O<sub>4</sub> nanomaterials: insights into potential toxic effects in erythrocytes and HepG2 cells

Luis Paramo<sup>1</sup>, A. Jiménez-Chávez<sup>2</sup>, Iliana E Medina-Ramírez<sup>3</sup>, Harald N. Böhnelt<sup>4</sup>, Luis Escobar-Alarcón<sup>5</sup>, Karen Esquivel<sup>1</sup>

<sup>1</sup> División de Investigación y Posgrado, Facultad de Ingeniería, Universidad Autónoma de Querétaro, Cerro de las Campanas, Santiago de Querétaro 76010, Mexico.

<sup>2</sup> Departamento de Toxicología, Centro de Investigación y de Estudios Avanzados del IPN (CINVESTAV-IPN), Ciudad de México, México

<sup>3</sup> Department of Chemistry, Universidad Autónoma de Aguascalientes, Aguascalientes 20131, Mexico.

<sup>4</sup> Centro de Geociencias, Universidad Nacional Autónoma de México, Campus Juriquilla. Blvd. Juriquilla, 3001, Santiago de Querétaro 76230, Mexico.

<sup>5</sup> Departamento de Física, Instituto Nacional de Investigaciones Nucleares, Carr. México-Toluca, La Marquesa, Ocoyoacac 52750, Mexico.

## Electronic Supplementary Material

Tube	Concentration (µg/mL)	NMs (µL)	PSS (mL)	distilled water (mL)	Blood (µL)
Control +	-	-	0	10	100
Control -	-	-	10	0	100
1	10	100	9.9	0	100
2	30	300	9.7	0	100
3	50	500	9.5	0	100
4	70	700	9.3	0	100

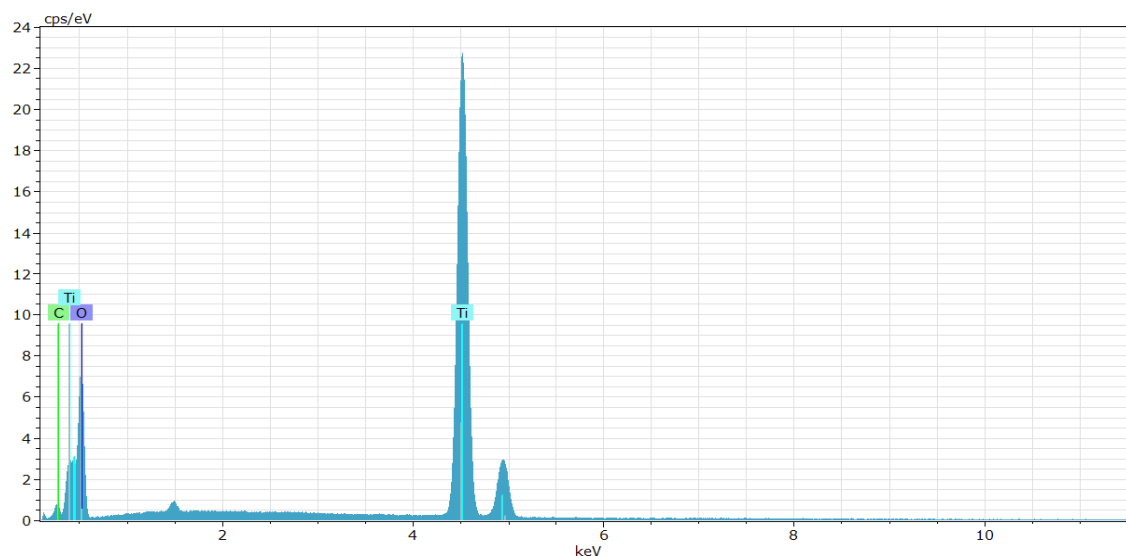


Figure S1. EDX elemental spectra of TiO<sub>2</sub>

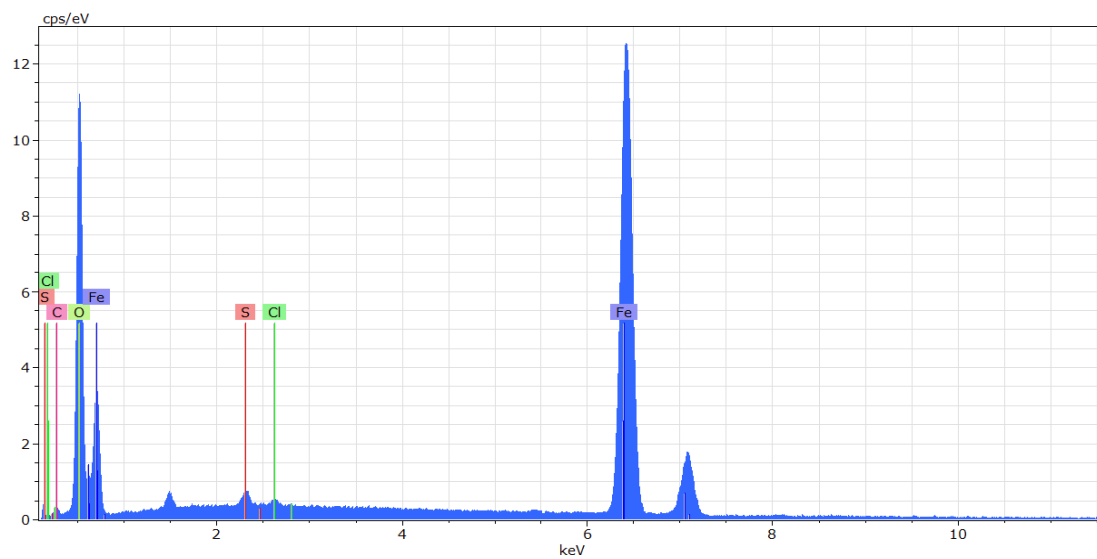


Figure S2. EDX elemental spectra of Fe<sub>3</sub>O<sub>4</sub>

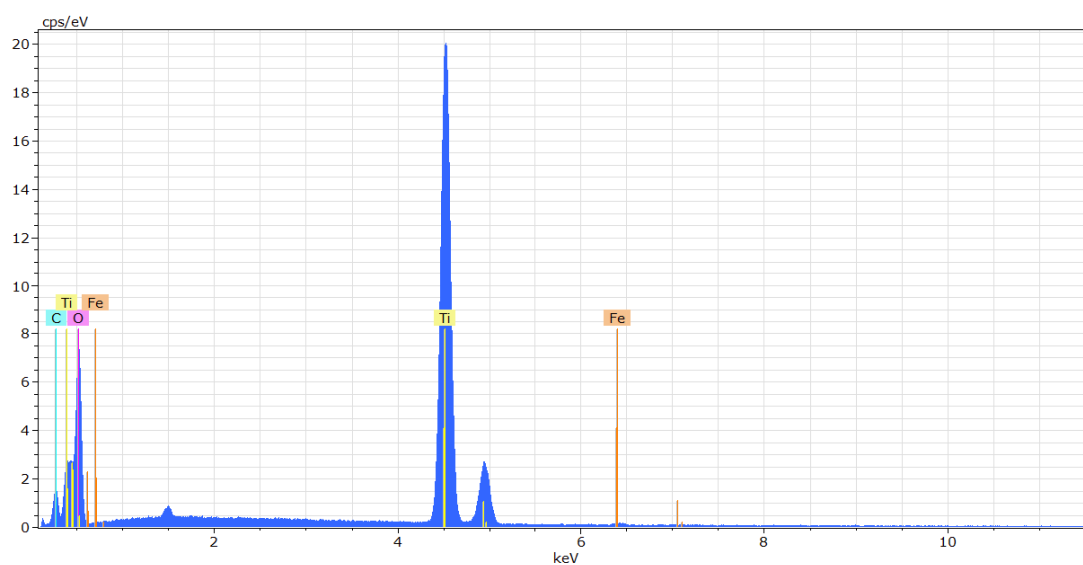


Figure S3. EDX elemental spectra of TiO<sub>2</sub>/Fe<sub>3</sub>O<sub>4</sub> composite.

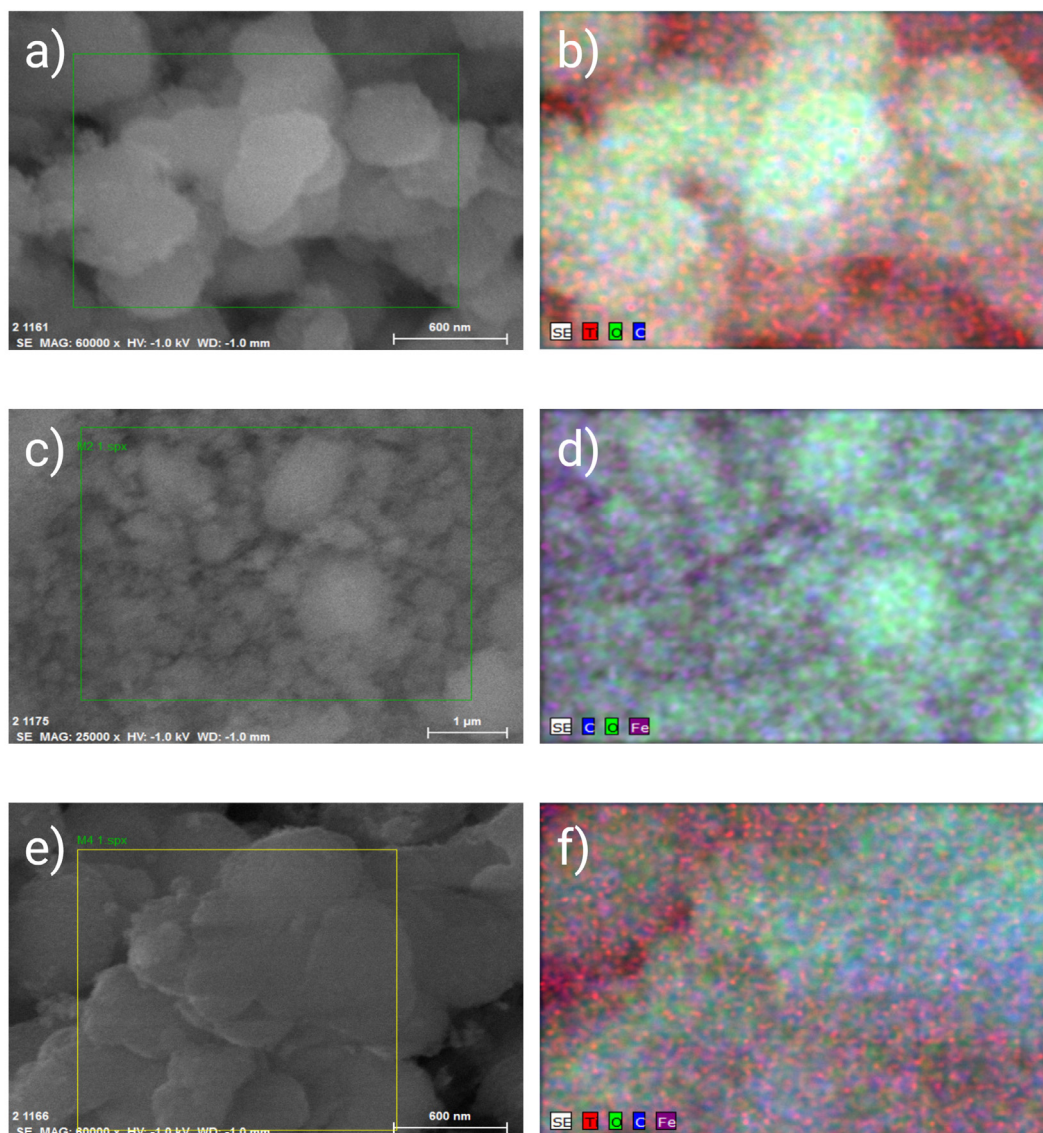


Figure S4. EDX elemental mapping zone and elemental mapping of a,b) TiO<sub>2</sub>, b,c) Fe<sub>3</sub>O<sub>4</sub> and e,f) TiO<sub>2</sub>/Fe<sub>3</sub>O<sub>4</sub>.

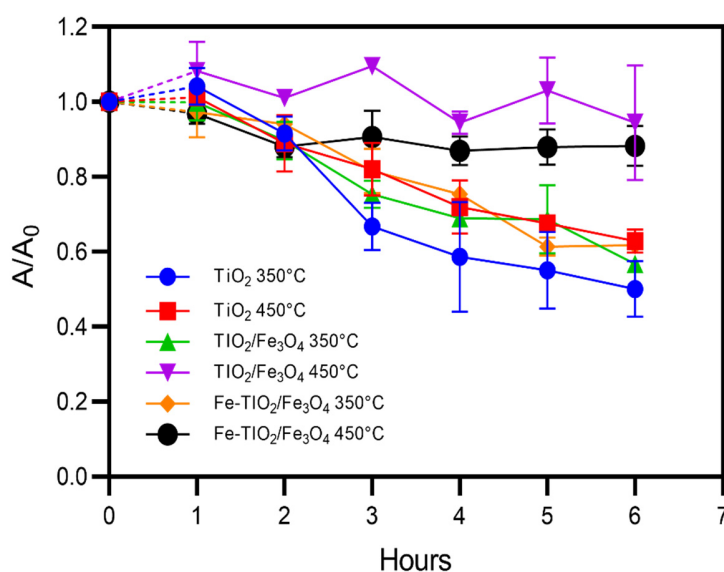


Figure S5. Photocatalytic degradation of paracetamol under UV light.

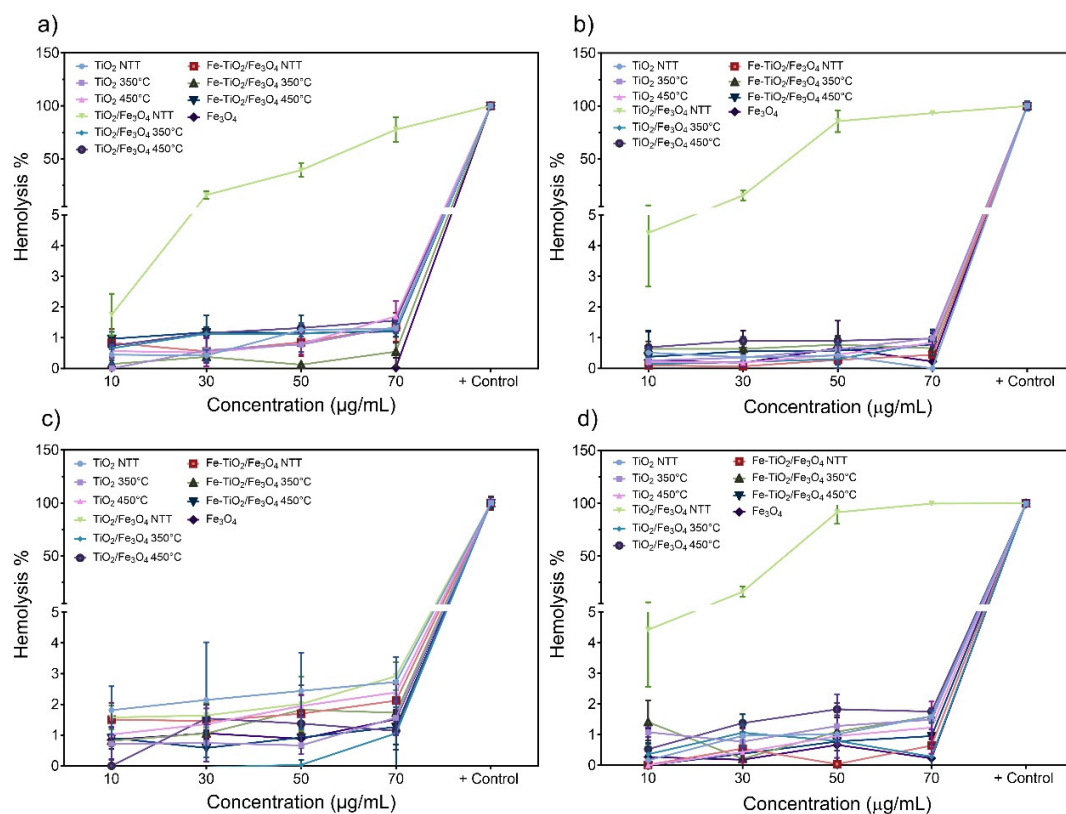


Figure S6. Hemolysis assay of NMs interaction with a) blood and plasma in a dark environment, b) blood and plasma under light exposure, c) blood without plasma under a dark environment, and d) blood without plasma under light exposure.