

# pH-sensitive polymeric nanoparticles with antioxidant and anti-inflammatory properties against cisplatin-induced hearing loss

Sergio Martín-Saldaña<sup>a,b</sup>, Raquel Palao-Suay<sup>a,c</sup>, María Rosa Aguilar<sup>a,c\*</sup>, Luis García-Fernández<sup>a,c</sup>, Humberto Arévalo<sup>a</sup>, Almudena Trinidad<sup>b</sup>, Rafael Ramírez-Camacho<sup>b</sup>,  
Julio San Román<sup>a,c</sup>.

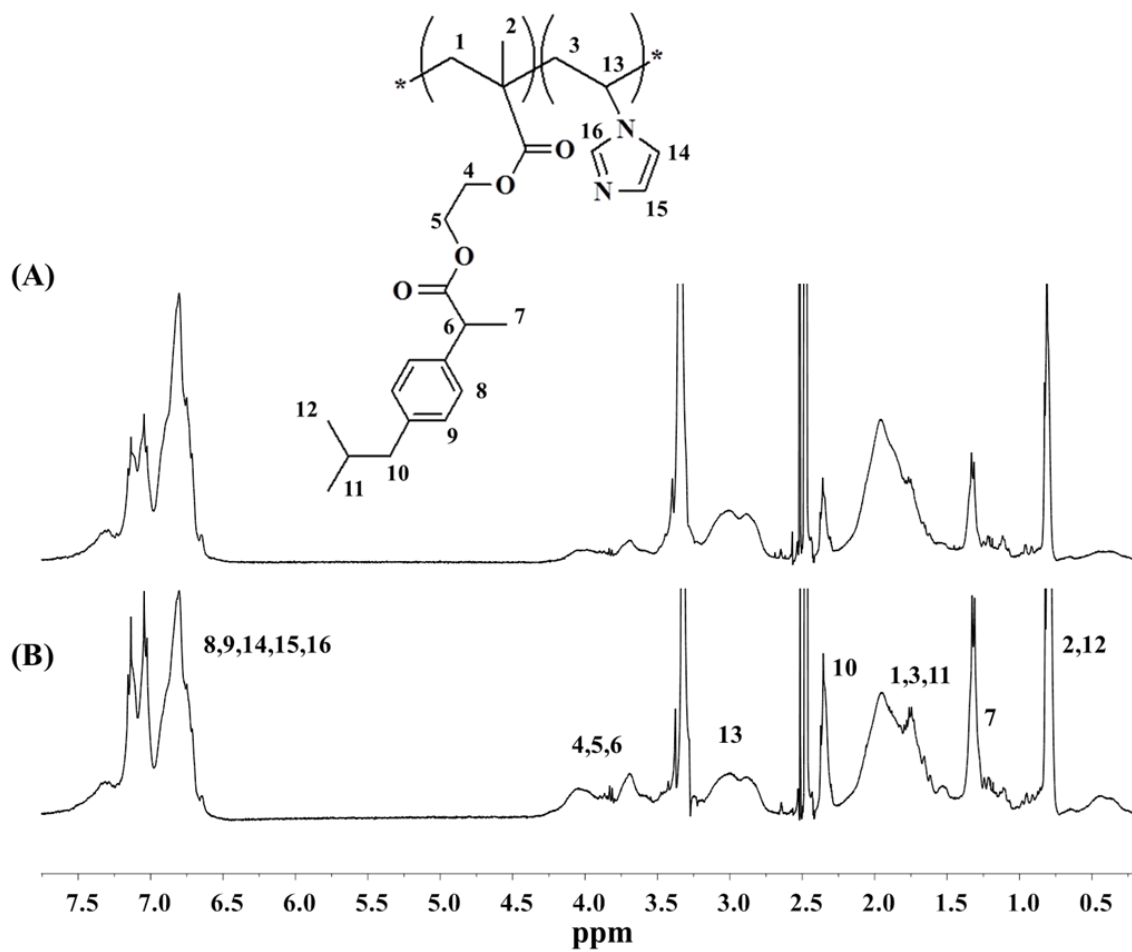
<sup>1</sup> Grupo de Biomateriales, Departamento de Nanomateriales Poliméricos y Biomateriales, Instituto de Ciencia y Tecnología de Polímeros, ICTP-CSIC, C/ Juan de la Cierva, 3, 28006 Madrid, España.

<sup>2</sup> Ear Research Group, Hospital Universitario Puerta de Hierro Majadahonda, Health Research Institute Puerta de Hierro, Madrid, Spain

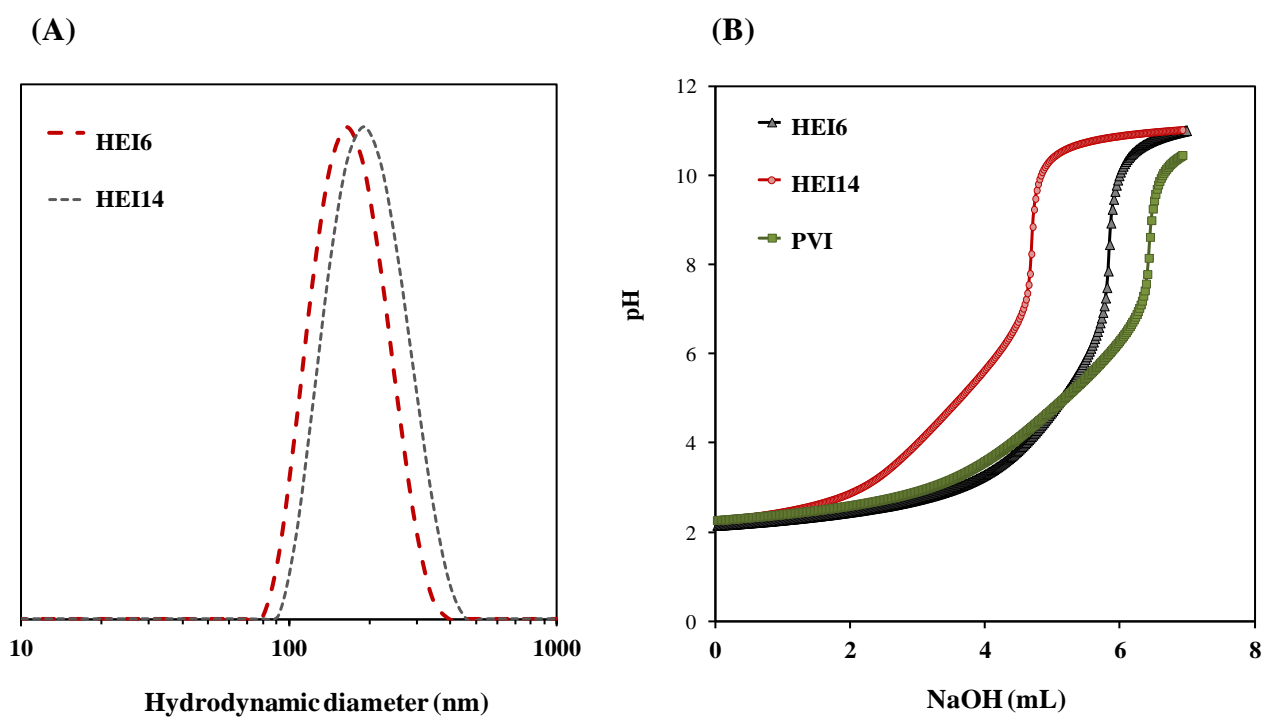
<sup>3</sup> Networking Biomedical Research Centre in Bioengineering, Biomaterials and Nanomedicine, CIBER-BBN, Spain

## SUPPORTING INFORMATION

### Copolymer characterization of HEI6 and HEI14

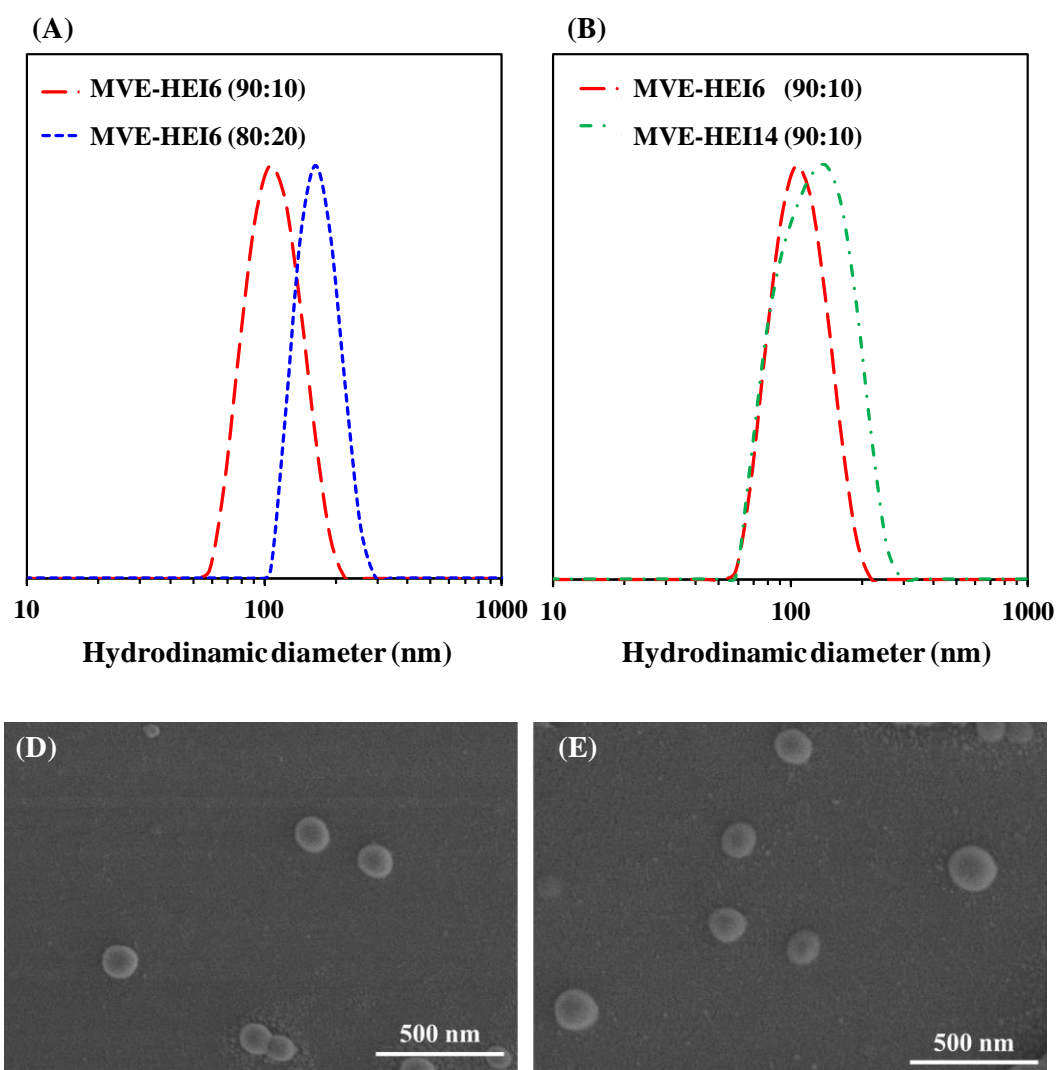


**Figure S1:** <sup>1</sup>H-NMR spectra of (A) HEI6 and (B) HEI14

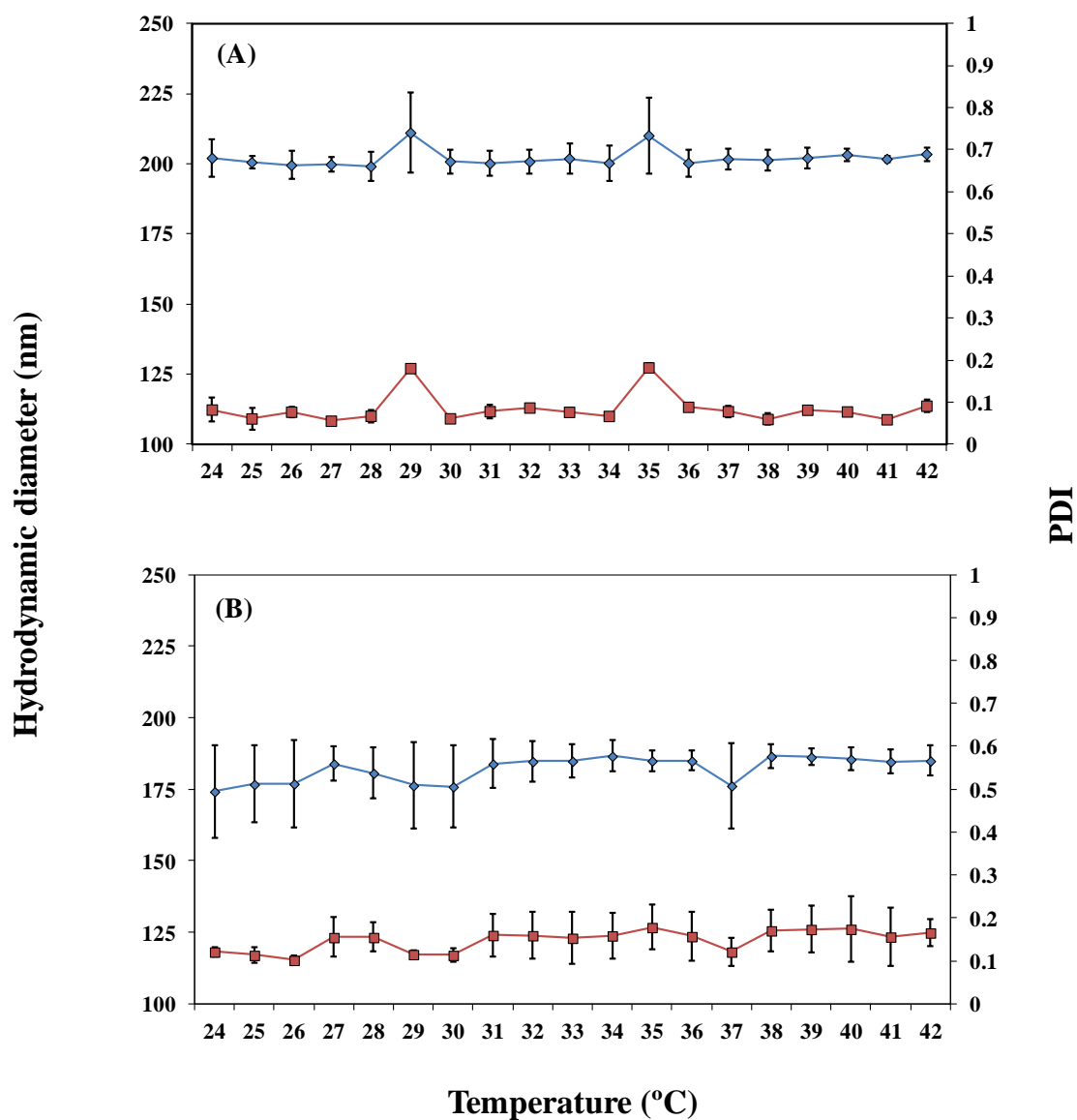


**Figure S2:** (A) Comparison of particle size distributions ( $D_h$ , by intensity) of NP based on HEI6 and HEI14. (B) Titration curves of PVI and NPs from HEI-6 and HEI-14.

*NPs characterization*



**Figure S3.** (A) Comparison of particle size distributions ( $D_h$ , by intensity) of NPs based on MVE-HEI6 90:10 and 80:20. (B) Comparison of size distributions of NPs based on MVE-HEI6 and MVE-HEI14 90:10. SEM micrographs of (C) unloaded and (D) Dx loaded NPs based on MVE-HEI14 (80:20).



**Figure S4:** NPs mean diameter variation of MVE-HEI14-10Dx (A) and MTOS-HEI14-10Dx (B) with a temperature trend from 24 to 42°C.

**Table S1:** Experimental groups (IP; intraperitoneal administration).

NPs sample	N	Encapsulated Dx (% w/w)	CDDP IP (10 mg/kg)
MVE-HEI6-10Dx	2	10	-
MTOS-HEI14-10Dx	2	10	-
MVE-HEI6-10Dx	2	10	+
MTOS-HEI14-10Dx	6	10	+