

Supplementary Materials

Redox Responsive Copolyoxalate Smart Polymers for Inflammation and Other Aging-Associated Diseases

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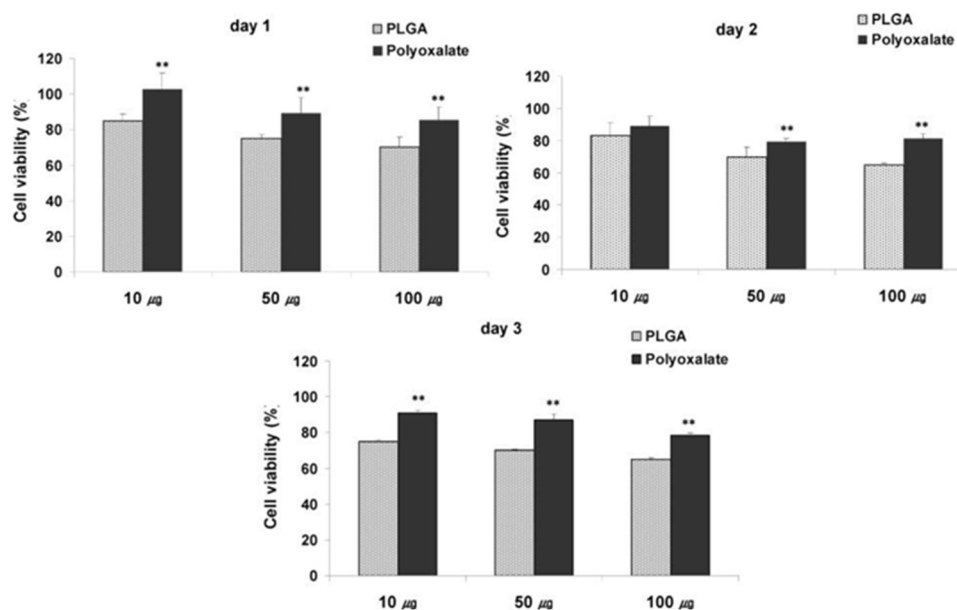


Figure S1. Cytotoxicity POx and PLGA nanoparticles in RAW 264.7 cells [Kim *et al.* 2010].

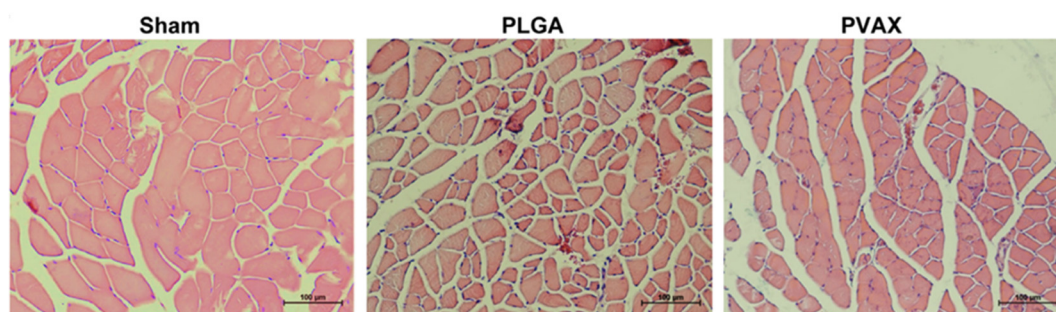


Figure S2. Tissue compatibility of CPOx (PVAX) and PLGA nanoparticles [Berwin *et al.* 2018].

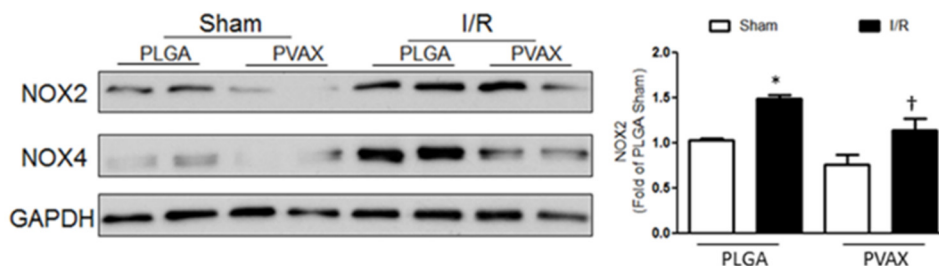


Figure S3. mRNA expression and quantification of of NADPH oxidase 2 of CPOx (PVAX) and PLGA [Bae *et al.* 2016].

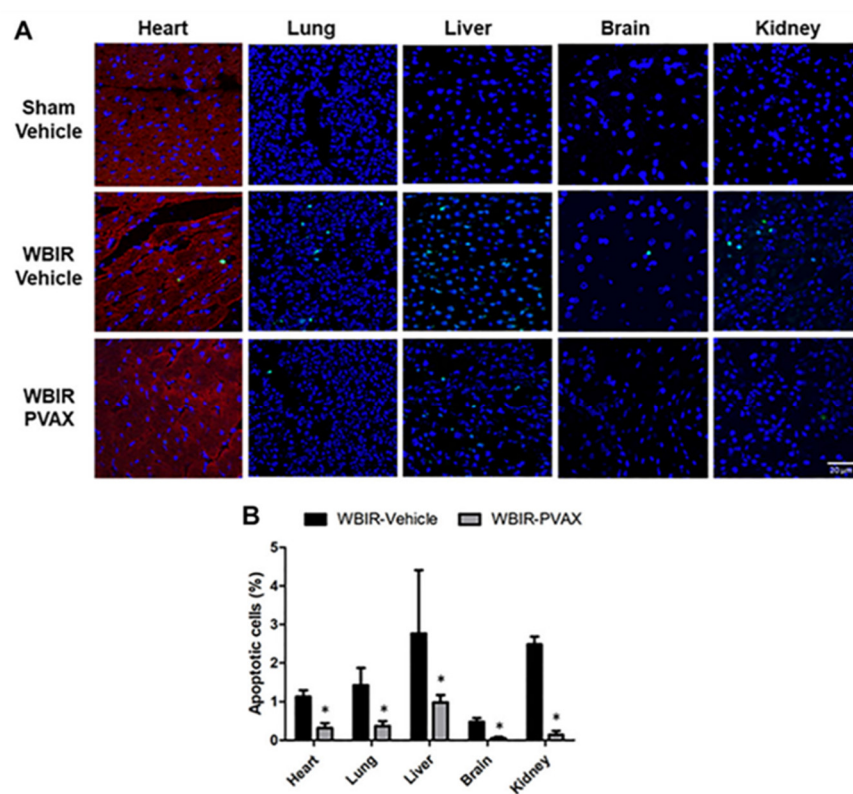


Figure S4. Effects of CPOx (PVAX) on apoptosis in multiple organs TUNEL fluorescent staining in heart, lung, liver, and brain, and kidney[4].

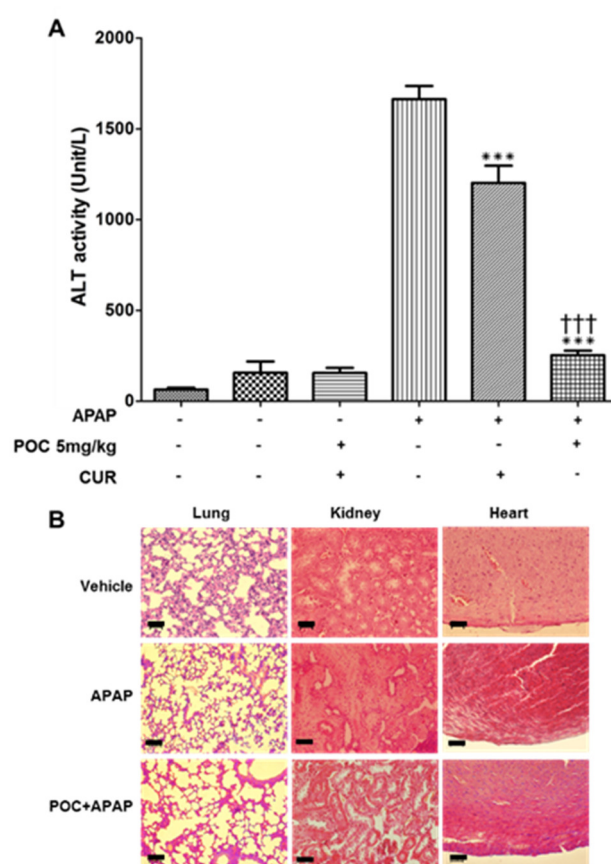


Figure S5. A) Serum ALT levels in APAP-intoxicated mice after POC particles treatment. Mean \pm S.D. $n = 3$ *** $P < 0.001$ in relative to APAP treated group, +++ $P < 0.001$ in relative to APAP+ CUR treated group. **B)** Haematoxylin

and eosin staining of lung, kidney and heart treated with various formulation compared with vehicle treated group [Berwin *et al.* 2019].

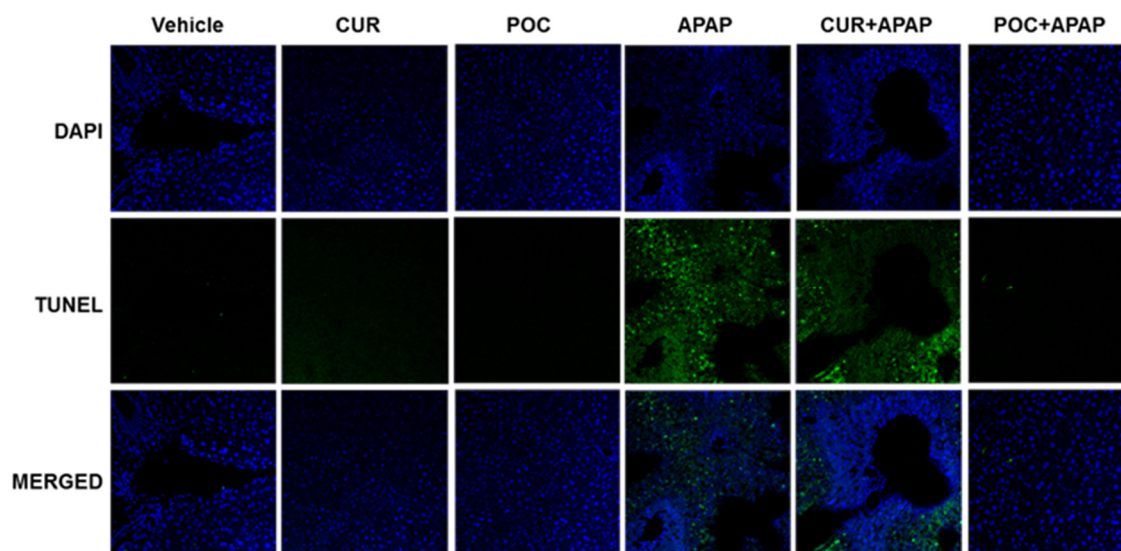


Figure S6. Liver tissues stained by TUNEL assay [Berwin *et al.* 2019].

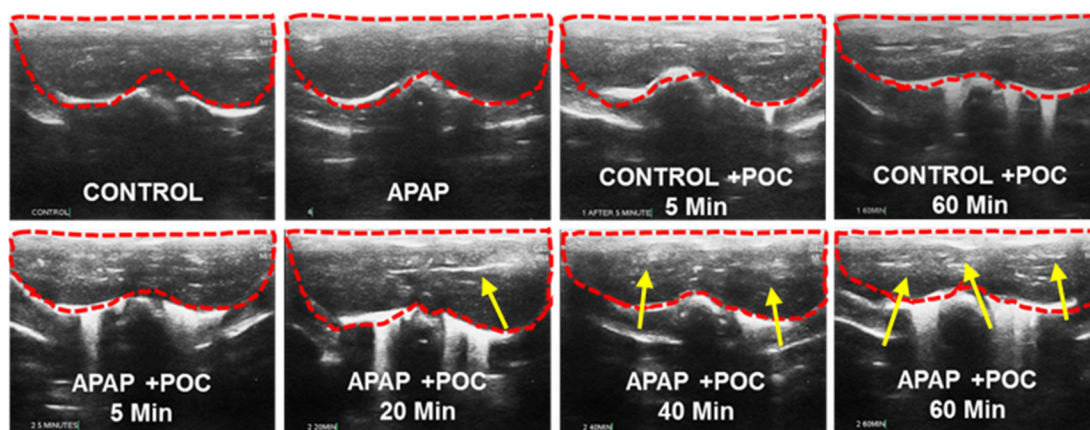
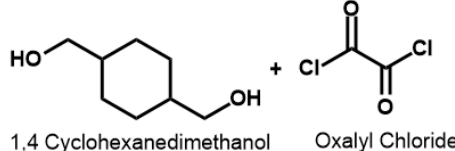
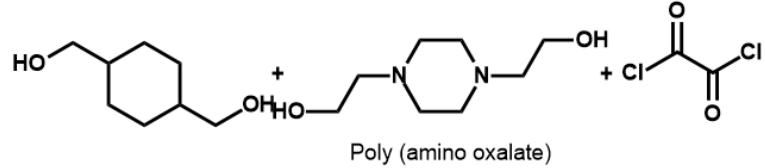
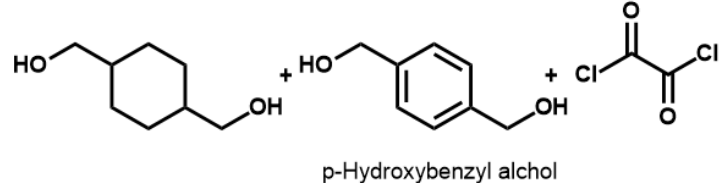
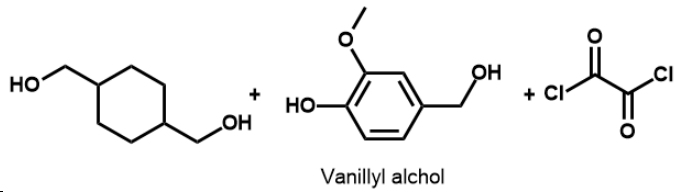
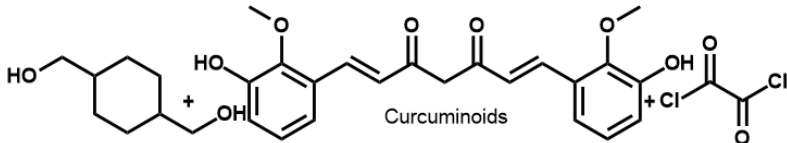


Figure S7. Ultrasound images of liver of APAP-intoxicated mice followed by POC nanoformulation treatment. Liver contour-dotted red lines and Echogenicity of POC particles- yellow arrows [Berwin *et al.* 2019].

Table S1. Biomedical application of Oxalate and copolyoxalate polymeric particles.

Polymers	Molecule Incorporated	Biomedical Application	Reference
(i) Polyoxalate	 <p>1,4 Cyclohexanedimethanol Oxalyl Chloride</p>	Chemiluminescence detection of ROS and drug loading	[1,6–8]
(ii) Copolyoxalate			
PAOX	 <p>Poly (amino oxalate)</p>	Encapsulation of aqueous insoluble drugs and Cytosolic drug delivery	[9]
HPOX	 <p>p-Hydroxybenzyl alcohol</p>	Inflammation, ischemia-reperfusion injury, chemi-dynamic therapy,	[10–13]
PVAX	 <p>Vanillyl alcohol</p>	Myocardial infraction, muscle injury, liver injury, upper respiratory tract inflammation, wound healing, bioimaging.	[2,4,11–16]
POC	 <p>Curcuminoids</p>	Liver injury and Bioimaging.	[5]

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