Supporting Information

Quercetin-loaded nanomicelles to circumvent human castration-resistant prostate cancer *in vitro* and *in vivo*

Jing Zhao[†,§,‡,⊥], Juan Liu[§,⊥], Tuo Wei[§], Xiaowei Ma[§], Qiang Cheng[#], Shuaidong Huo[§], Chunqiu Zhang[§], Yanan Zhang[‡], Xianglin Duan[†,] and Xing-Jie Liang[§,*]*

[†]Laboratory of Molecular Iron Metabolism, College of Life Science, Hebei Normal University, Shijiazhuang 050016, China

[§]CAS Center for Excellence in Nanoscience and CAS Key Laboratory for Biological Effects of Nanomaterials and Nanosafety, National Center for Nanoscience and Technology, No.11, First North Road, Zhongguancun, Beijing100190, China

[‡]Department of Histology and Embryology, Hebei Medical University, Shijiazhuang 050017, China

[#]Laboratory of Nucleic Acid Technology, Institute of Molecular Medicine, Peking University, Beijing100871, China

[⊥]These authors contributed equally to this work.

* Address correspondence to: liangxj@nanoctr.cn; xlduan0311@163.com.

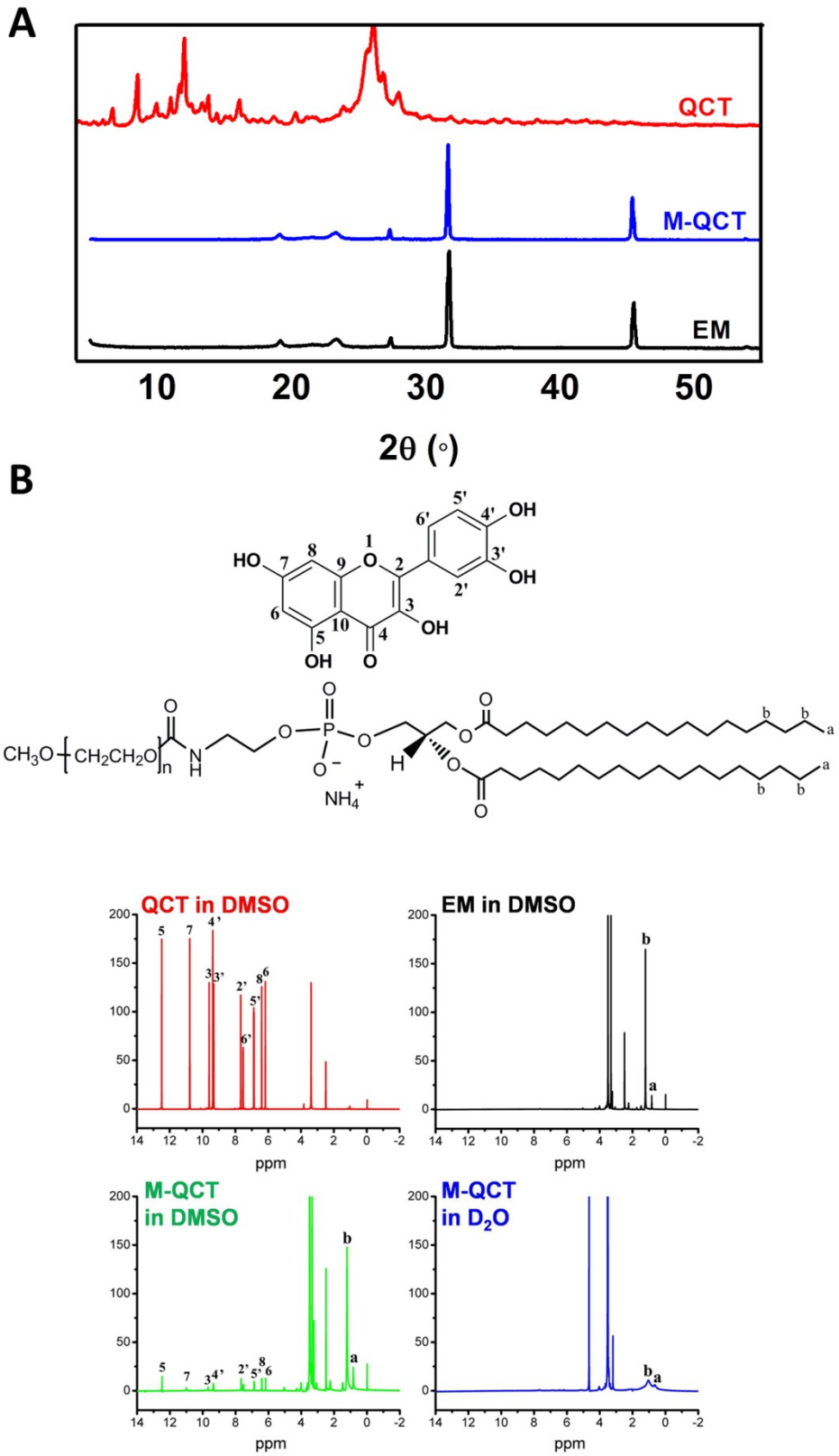

Figure S1. (A) XRD and (B) ^{1}H NMR analysis of quercetin-loaded DSPE-PEG$_{2000}$ micelles (M-QCT) to show the drug loading characteristics. QCT, quercetin alone; EM, empty micelles.

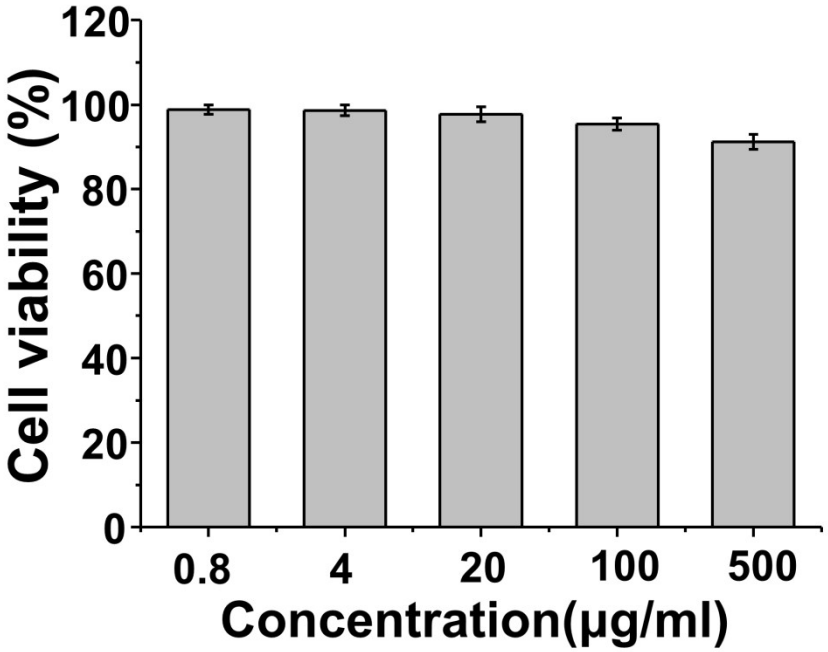

Figure S2. *In vitro* cytotoxicity of increasing concentrations of empty micelles (EMs) against PC-3 cells.

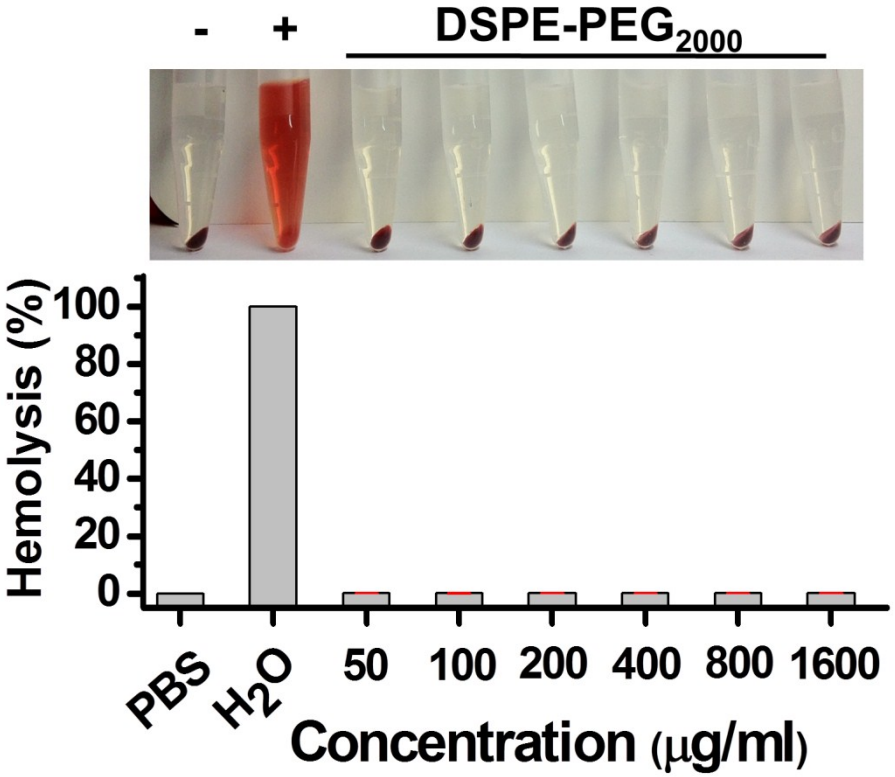

Figure S3. Hemolysis assay of empty micelles (EMs). Mouse RBCs were incubated with suspensions of EMs at incremental concentrations. No obvious hemolysis was detected.

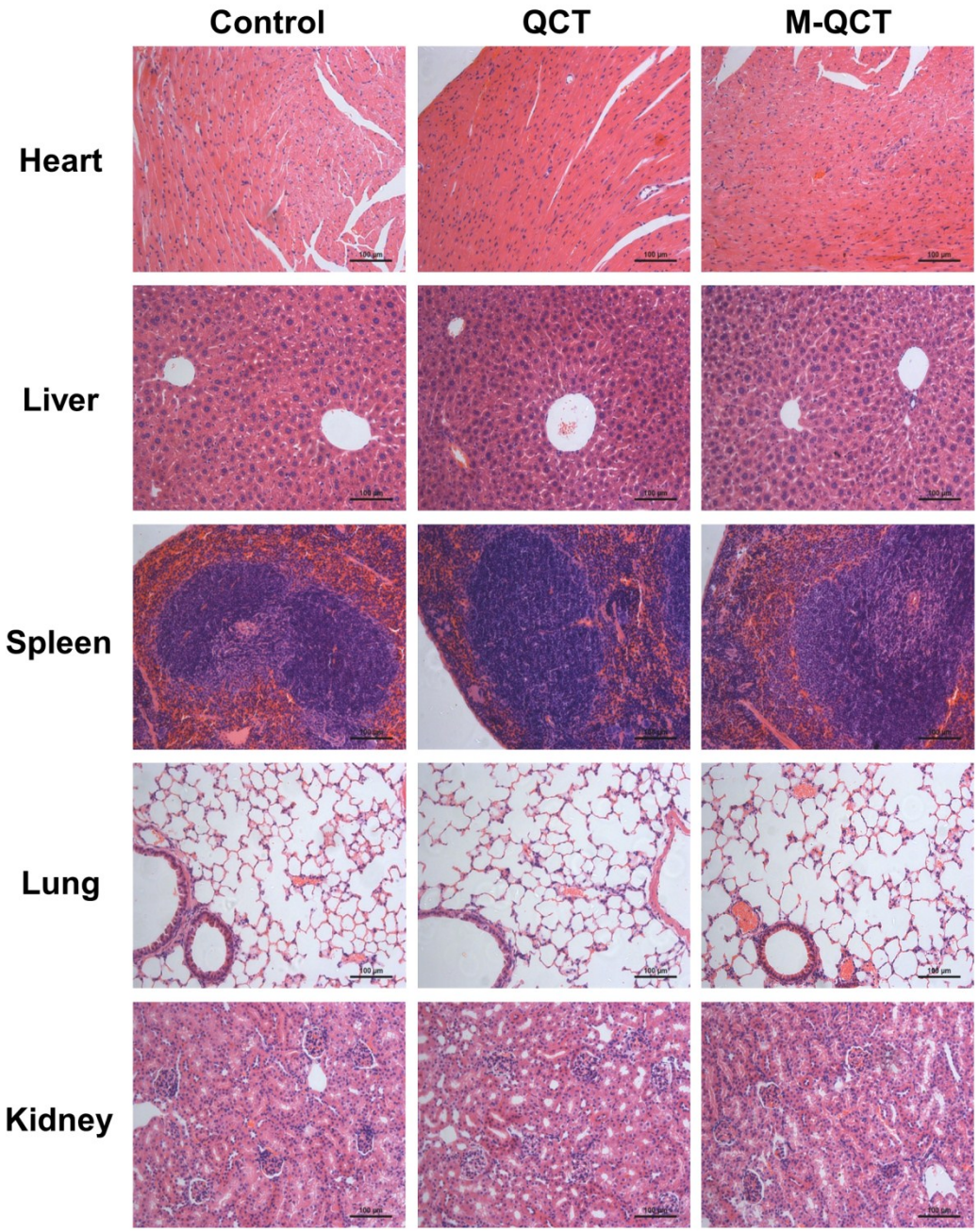

Figure S4. Representative images of H&E staining of various organs from mice with PC-3 cell xenografts after treatment with QCT or M-QCTs at a quercetin-equivalent dose of 30 mg/kg. Physiological saline treatment was used as control. Scale bar = 100 μm.

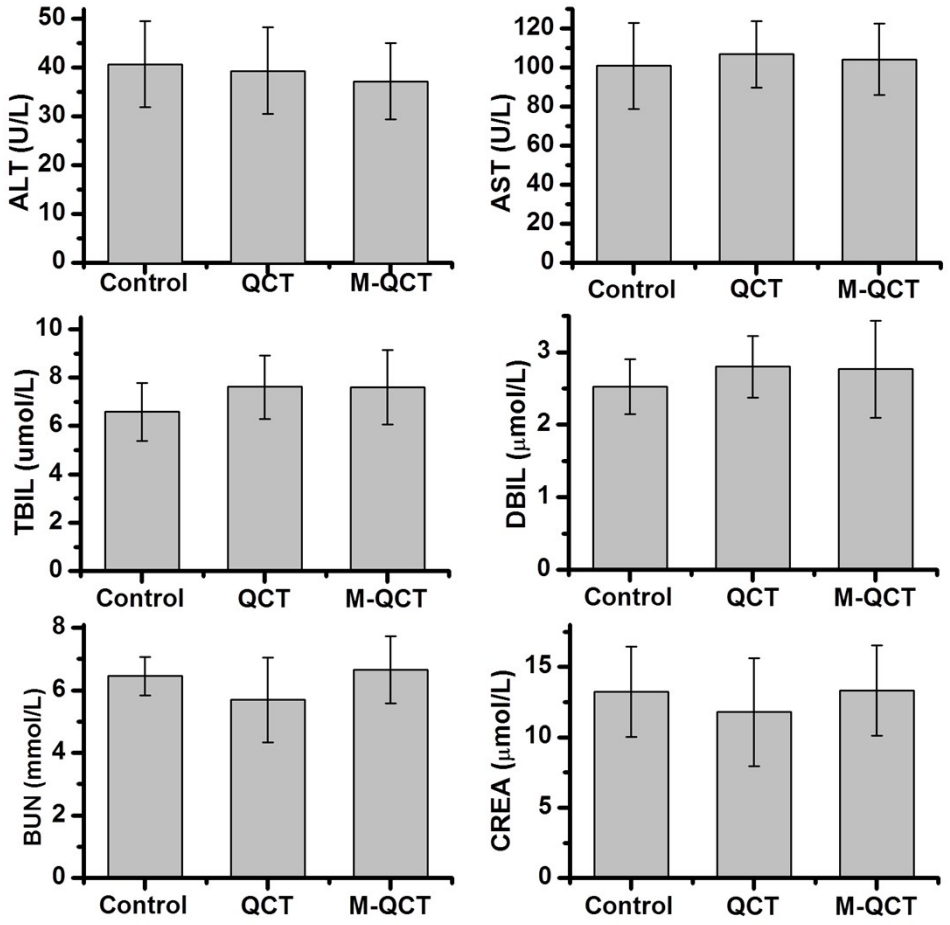

Figure S5. Serum biochemistry analyses related to liver function and renal function after QCT or M-QCT treatment in PC-3 xenograft mice, including alanine aminotransferase (ALT), aspartate aminotransferase (AST), total bilirubin (TBIL), direct bilirubin (DBIL), blood urea nitrogen (BUN) and creatinine (CREA). When the groups were compared, no significant differences were detected (p>0.05).