[Supporting Information (SI) to accompany a manuscript submitted to *ACS Nano*]

Biological Evaluation of pH-Responsive Polymer-Caged Nanobins for Breast Cancer Therapy

Sang-Min Lee,[† 1,3,6] Richard W. Ahn,[† 1,3,6] Feng Chen,[3,4,6] Angela J. Fought,[5,6] Thomas V. O'Halloran,[1,2,3,6] Vincent L. Cryns,*[3,4,6] and SonBinh T. Nguyen*[1,3,6]*

[1]Department of Chemistry, [2]Department of Biochemistry, Molecular Biology, and Cell Biology, [3]Center of Cancer Nanotechnology Excellence, Northwestern University, 2145 Sheridan Road, Evanston, Illinois 60208; [4]Cell Death Regulation Laboratory, Departments of Medicine and Cell and Molecular Biology, [5]Department of Preventive Medicine, Feinberg School of Medicine, [6]Robert H. Lurie Comprehensive Cancer Center, Northwestern University, 303 East Chicago Avenue, Chicago, Illinois 60611

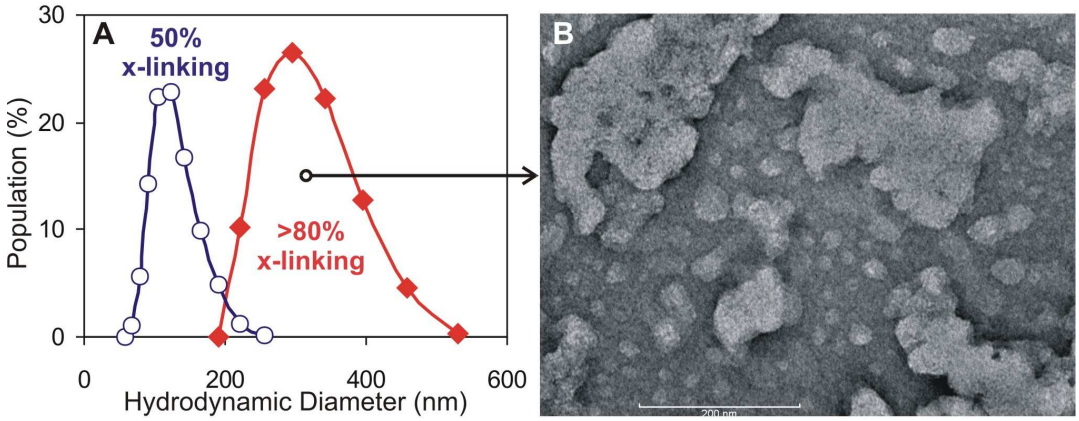

Figure S1. (A) The DLS-measured particle size distribution of PCNs with 50% and >80% cross-links. (B) The transmission electron micrograph of PCN with >80% cross-links, stained with aqueous uranyl acetate (4 wt%).

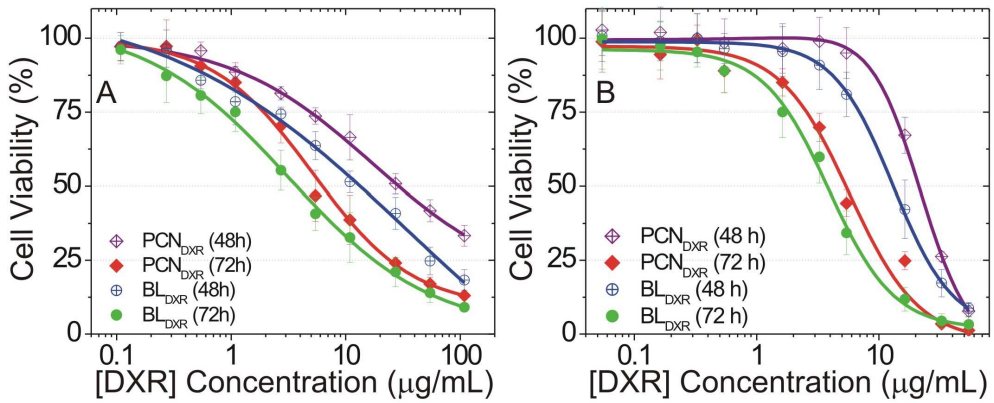

Figure S2. *In vitro* cytotoxicity of DXR-encapsulated polymer-caged nanobins (PCN_{DXR}) and bare liposomes (BL_{DXR}) against (A) MDA-MB-231 and (B) HeLa cells during 48-h (open symbols) and 72-h (closed symbols) incubations.

Table S1. Bonferroni-adjusted p-values of efficacy study 1.

Comparison	Weeks											
	0	0.5	1.0	1.5	2.0	2.5	3	3.5	4	4.5	5	5.5
PCN_{DXR} vs free DXR	NS	NS	NS	0.02	NS	0.04	NS	NS	NS	NS	NS	NS
Free DXR vs empty PCNs	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
PCN_{DXR} vs empty PCNs	NS	NS	NS	NS	0.03	NS	0.01	0.03	0.02	0.02	0.01	0.01

NS: Not significant.

Table S2. Bonferroni-adjusted p-values of efficacy study 2.

Comparison	Days					
	1	4	8	12	15	20
PCN_{DXR} (2.0 mg/kg) vs PBS	NS	NS	NS	0.03	0.01	NS
PCN_{DXR} (5.0 mg/kg) vs PBS	NS	NS	NS	0.04	0.03	0.02
PCN_{DXR} (7.5 mg/kg) vs PBS	NS	NS	NS	0.01	0.01	0.02
PCN_{DXR} (2.0 mg/kg) vs PCN_{DXR} (5.0 mg/kg)	NS	NS	NS	NS	NS	NS
PCN_{DXR} (2.0 mg/kg) vs PCN_{DXR} (7.5 mg/kg)	NS	NS	NS	NS	NS	NS
PCN_{DXR} (5.0 mg/kg) vs PCN_{DXR} (7.5 mg/kg)	NS	NS	NS	NS	NS	NS

NS: Not significant.