SUPPORTING INFORMATION FOR PUBLICATION

Bio-Inspired Amphoteric Polymer for Triggered-Release Drug Delivery on Breast Cancer Cells Based on Metal Coordination.

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Table S1. Abbreviations

Abbreviation	**Term**
NCP	nanoscale coordination polymer
Cur@NCP	curcumin-loaded nanoscale coordination polymer
PMPC	poly(2-methacryloyloxyethyl phosphorylcholine)
PserA	poly(serinyl acrylate)
RAFT	reversible addition-fragmentation chain transfer
DFO	deferoxamine mesylate
CPD	4-cyano-4-(phenylcarbonothioylthio) pentanoicacid
ACVA	4,4′-azobis (4-cyanovaleric acid)
MTT	3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl-2H-tetrazolium bromide
M_n	polymer molecular weight
Đ	polydispersity index

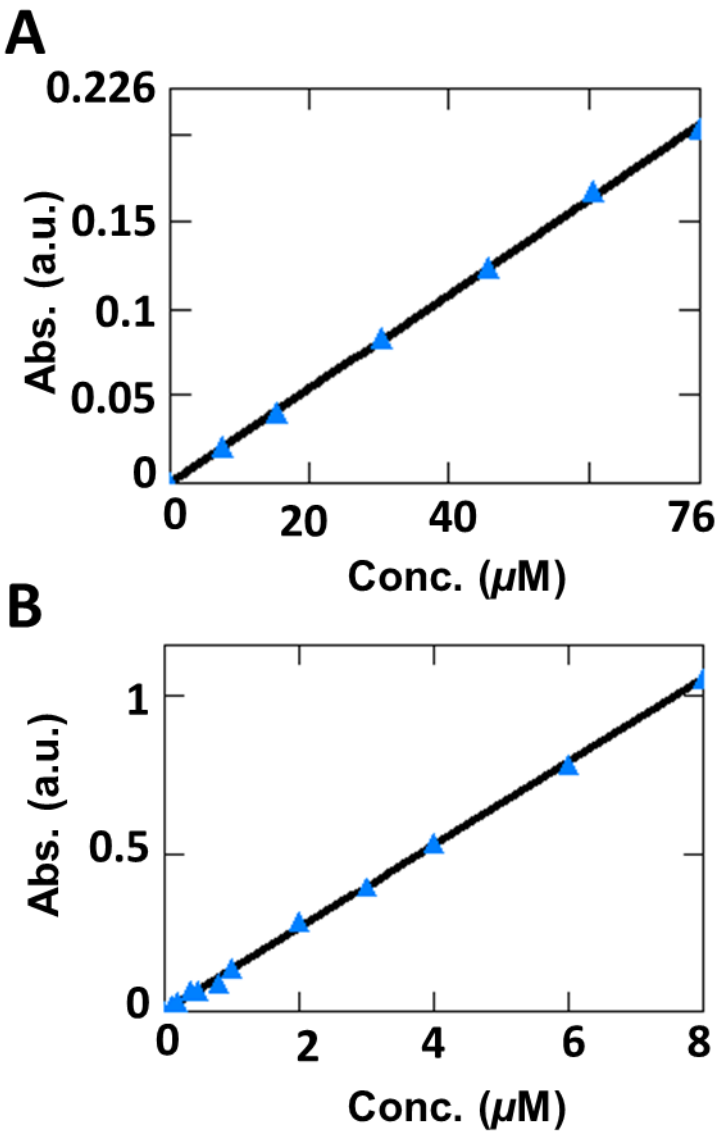


Figure S1. (A) Calibration curve of DFO-Fe^{3+} complex in water using absorbance at 430 nm. The data was fit with the equation A = 0.0027C + 1.74e-5 (r^2 = 0.999), where A is the absorbance and C is the DFO-Fe^{3+} complex concentration. (B) Calibration curve of curcumin in acetone using absorbance at 419.6 nm. The data was fit with the equation A = 0.132C + 1.86e-3 (r^2 = 0.999), where A is the absorbance and C is the curcumin concentration.

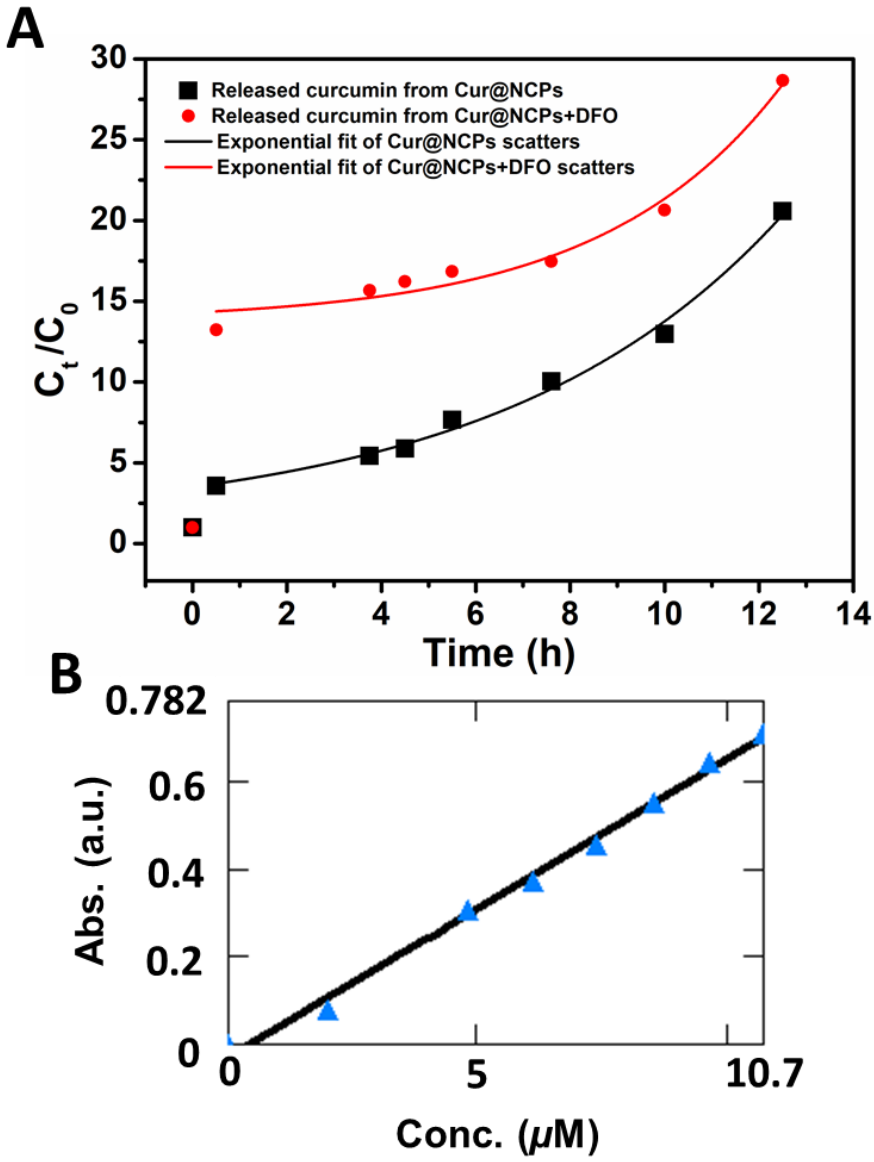
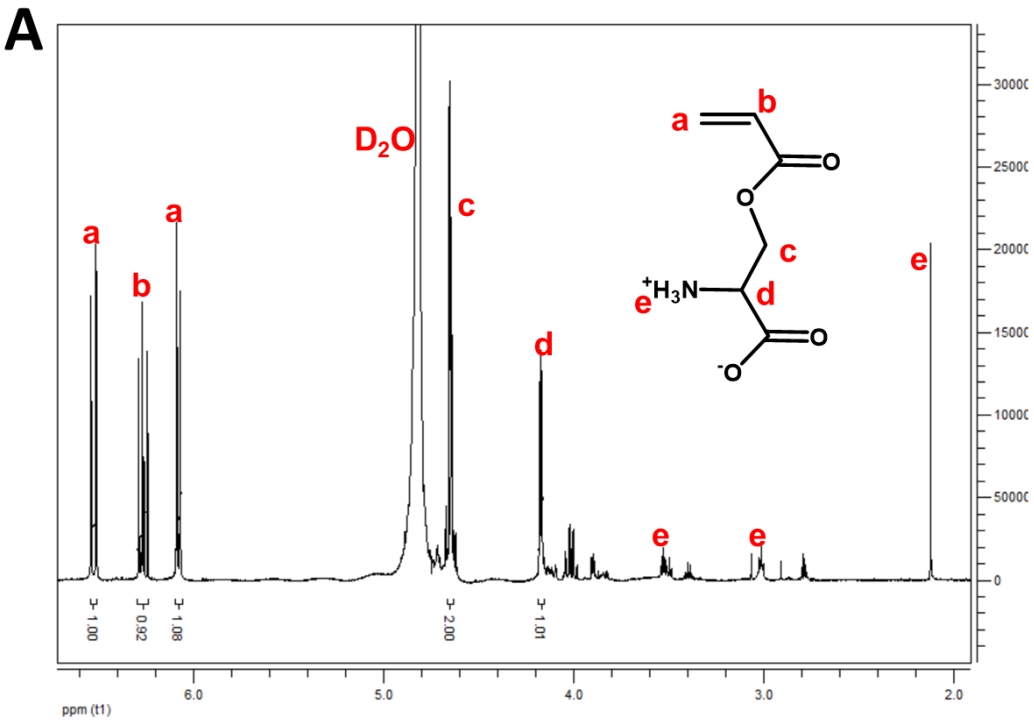
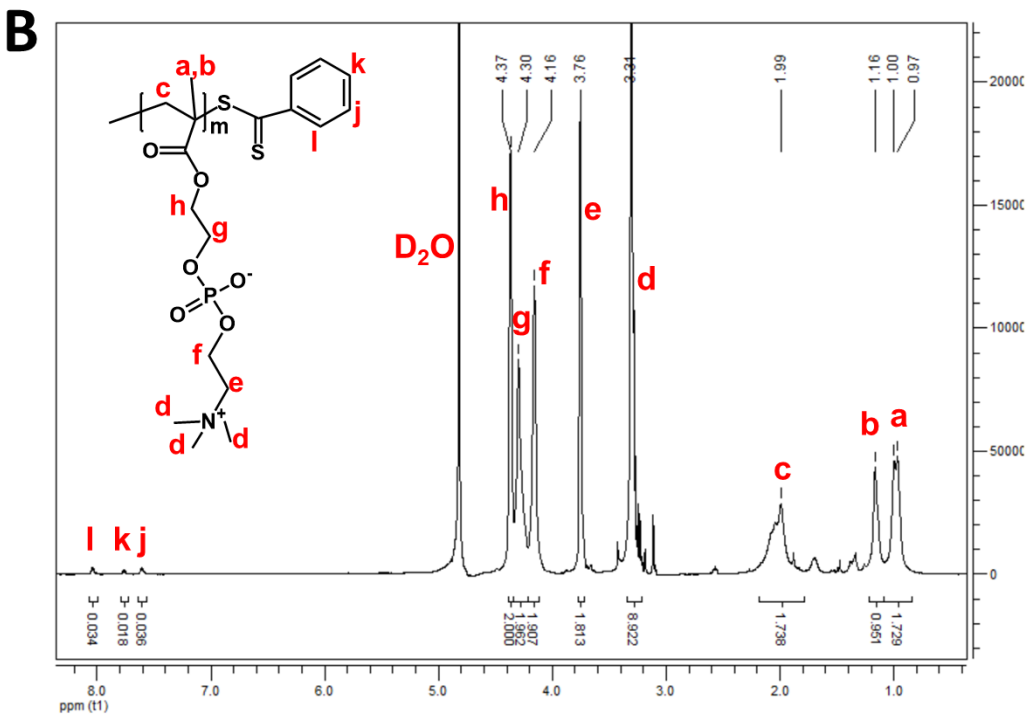


Figure S2. (A) Drug release profiles of Cur@NCPs with addition of DFO (red) and without DFO (black). The equation for curve fitting was $C_t/C_0=C_{0.5}+A*\exp(-k*t)$, where C_t is curcumin concentration at time t, C_0 is the initial curcumin concentration, $C_{0.5}$ is curcumin concentration at 0.5 h, A is the constant of integration, and k is the release rate constant. (B) Calibration curve of curcumin in PBS containing 0.5% Tween 80 based on absorbance at 425 nm. The data was fit with the equation A = 0.0679C – 0.029 (r^2 = 0.994), where A is the absorbance and C is the curcumin concentration.

Table S2. Statistics for curves shown in Figure S2A.

Statistics	Released curcumin from Cur@NCP	Released curcumin from Cur@NCP+DFO
$C_{0.5}$	1.18	13.7
A	2.33	0.54
k	0.17	0.26
r^2	0.99	0.96


A
D2O
a
b
c
d
e
ppm (t1)


B
D2O
a,b
c
d
e
f
g
h
j
k
l
ppm (t1)

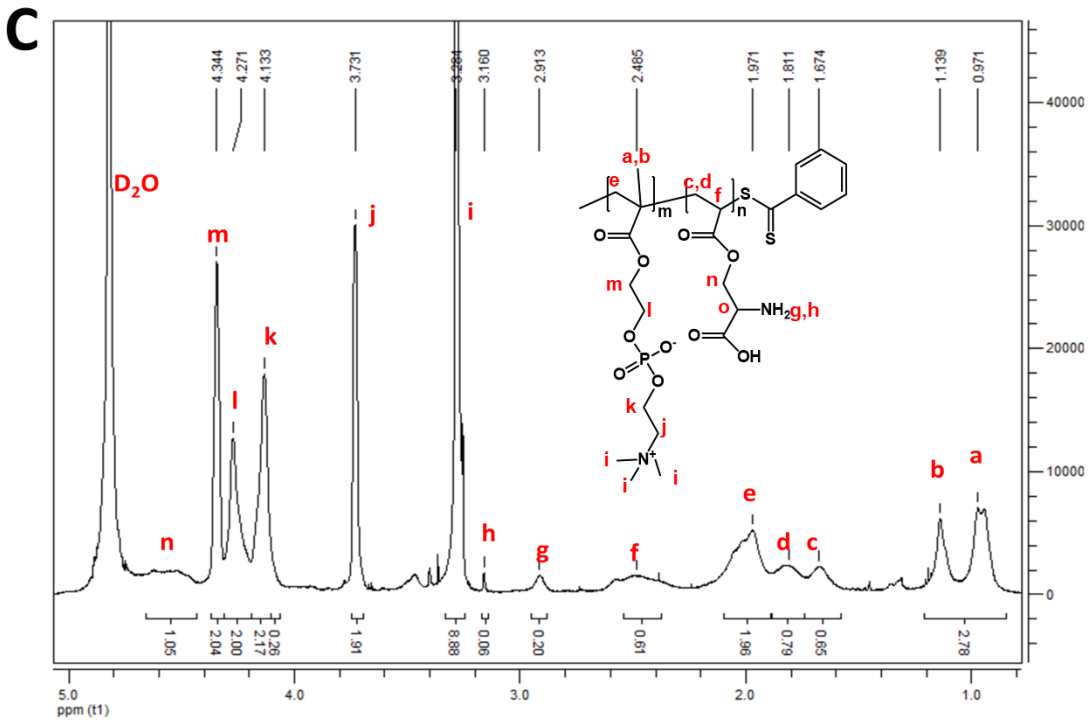


Figure S3. ^{1}H NMR spectra of (A) serA, (B) $PMPC_{55}$, and (C) $PMPC_{55}$-*b*-$PserA_{25}$ in deionized water.

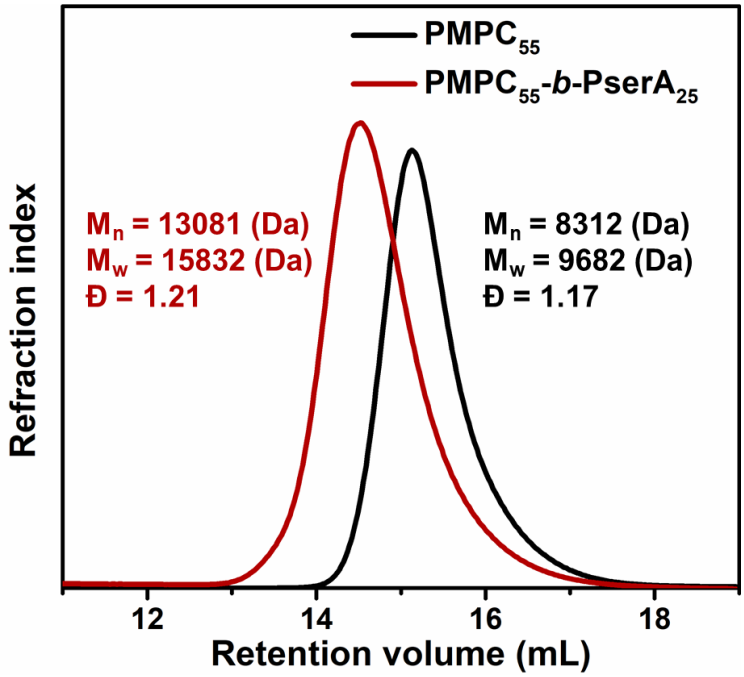


Figure S4. GPC chromatograms for $PMPC_{55}$ (black) and $PMPC_{55}$-*b*-$PserA_{25}$ (red). Polymer molecular weights (M_n, M_w) and polydispersity indices (Đ) were determined by GPC in 0.15 M NaCl eluent at a flow rate of 0.6 mL/min.

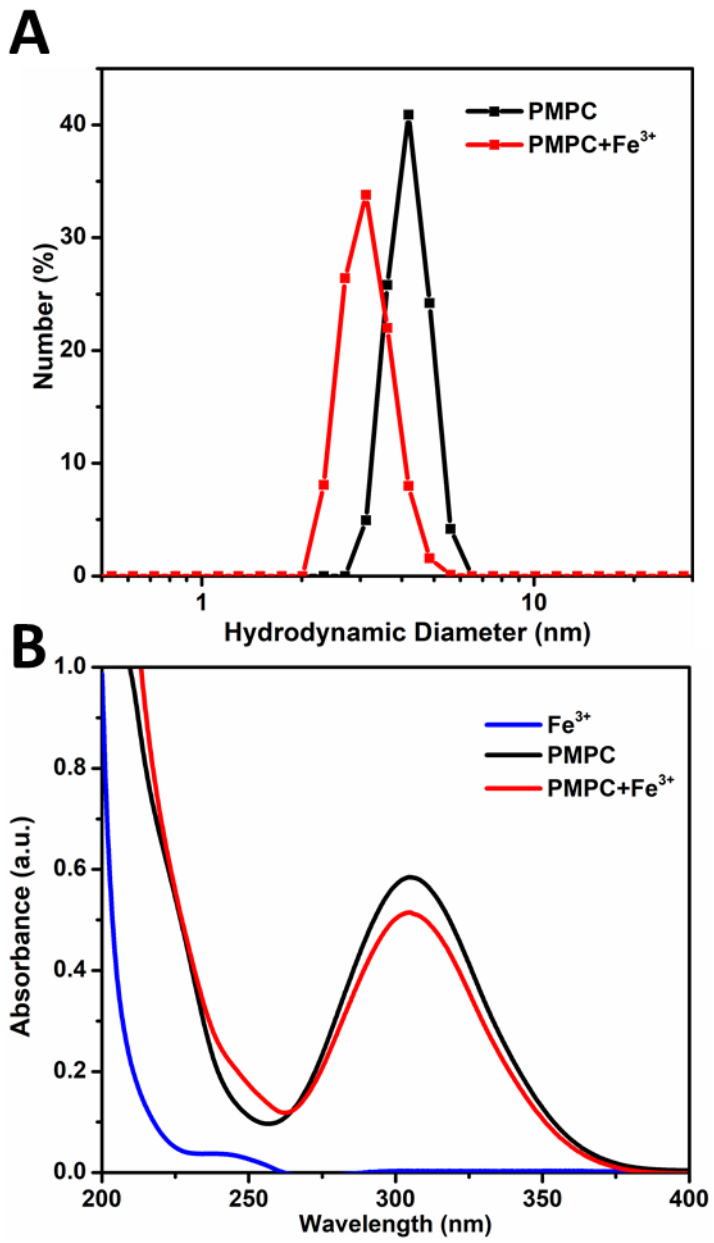


Figure S5. (A) DLS measurement of PMPC in the absence of Fe^{3+} (black) and in the presence of Fe^{3+} (red). (B)UV-vis spectra of $FeCl_{3(aq)}$ (Na_2CO_3 added, and the precipitate filtered), PMPC, and PMPC with $FeCl_3$ (molar ratio of Fe^{3+} to MPC = 3) in PBS.

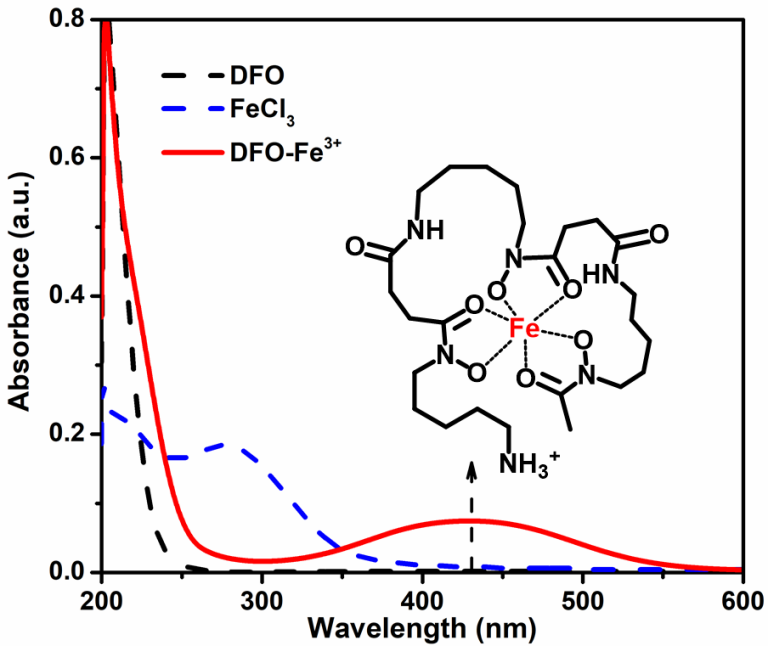


Figure S6. UV-vis spectra of $FeCl_3$ in deionized water, DFO in PBS, and DFO-Fe^{3+} complex in PBS.

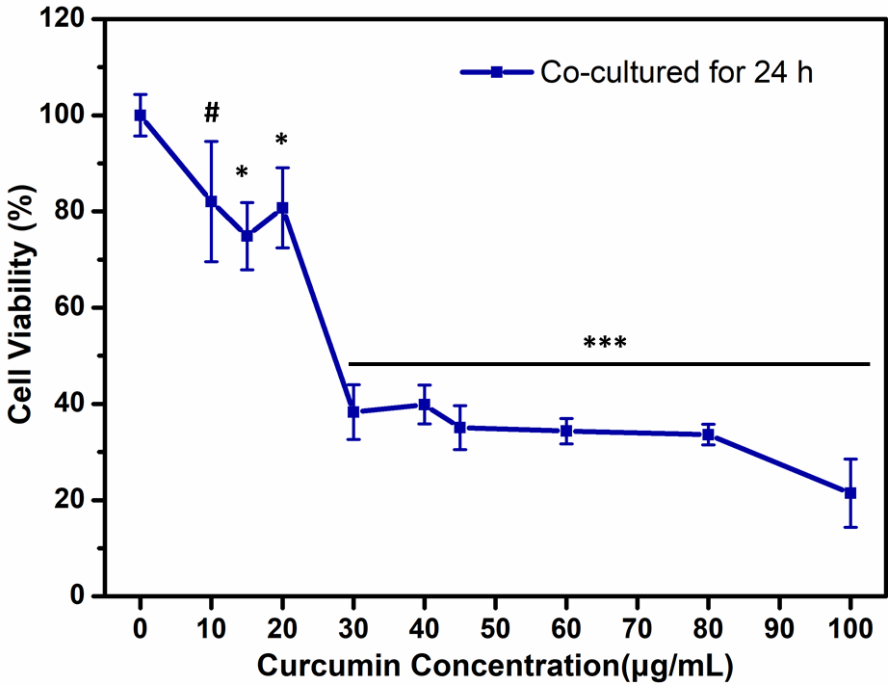


Figure S7. Cell viability of MDA-MB-231 breast cancer cells treated with free curcumin.