Supporting information

Chemical Amplification Accelerates Reactive Oxygen Species Triggered Polymeric Degradation

Sangeun Lee, Alexandra Stubelius, Jason Olejniczak, Hongje Jang, Viet Anh Nguyen Huu and Adah Almutairi

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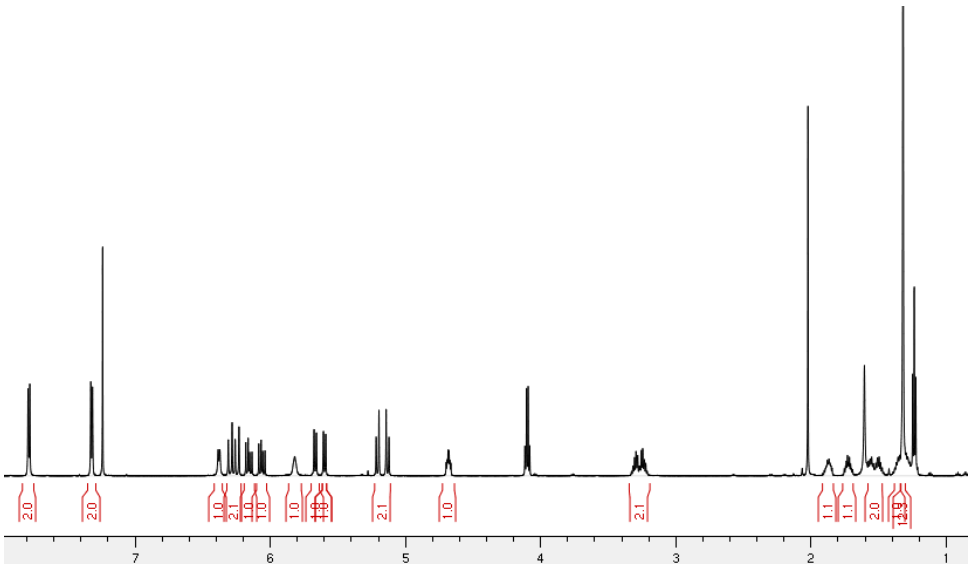

Figure S1. NMR spectra of compound 3

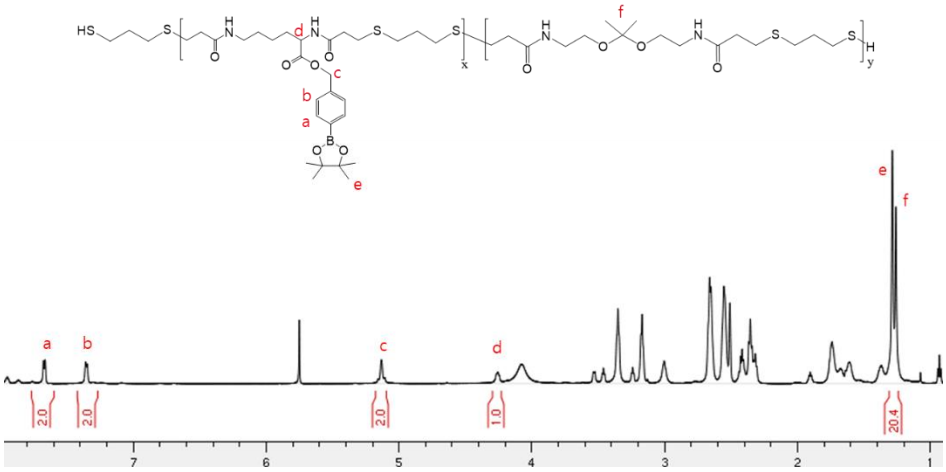

Figure S2. NMR spectra of ROS-ARP

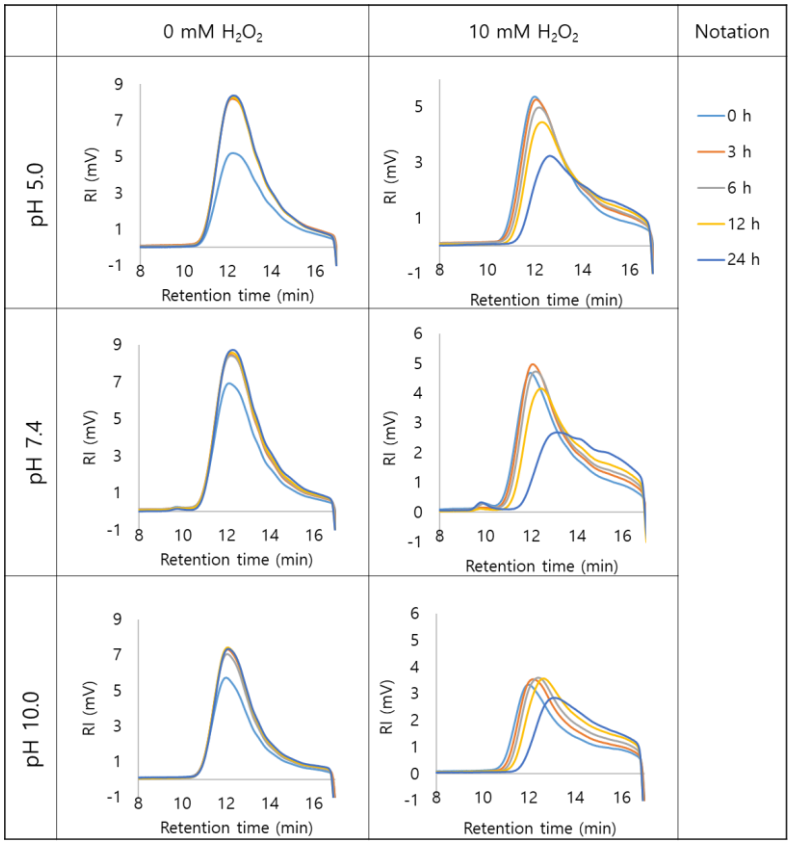

Figure S3. GPC profile of ROS-ARP in various pH and presence of H_2O_2. x/y axis is retention time/RI signal intensity.

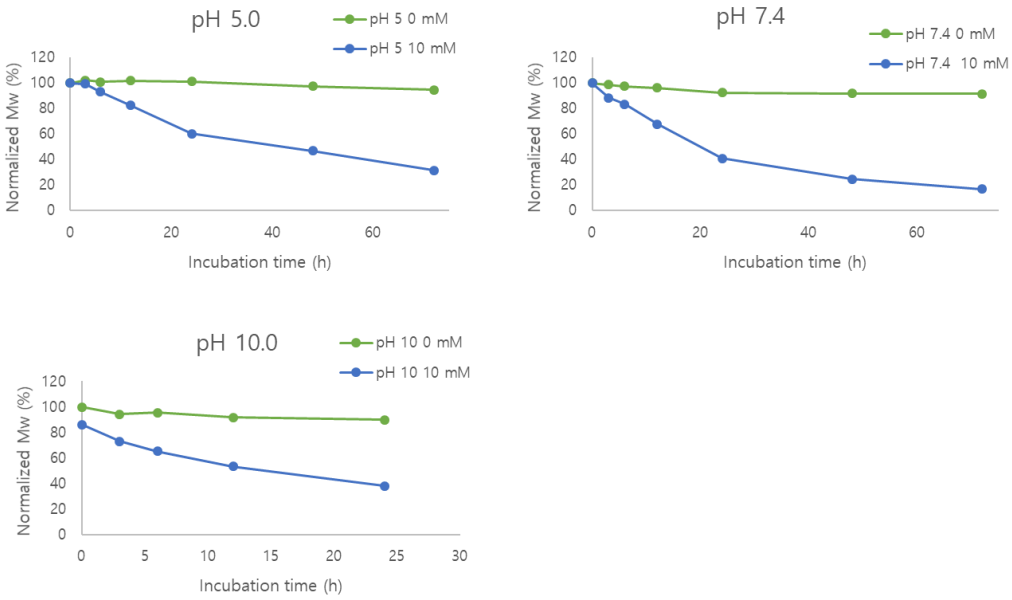

Figure S4. ROS-ARP molecular weight change by pH and H_2O_2. x/y axis represents incubation time/% molecular weight. Polymer incubated with 10 mM H_2O_2 (blue) and without H_2O_2 (green).

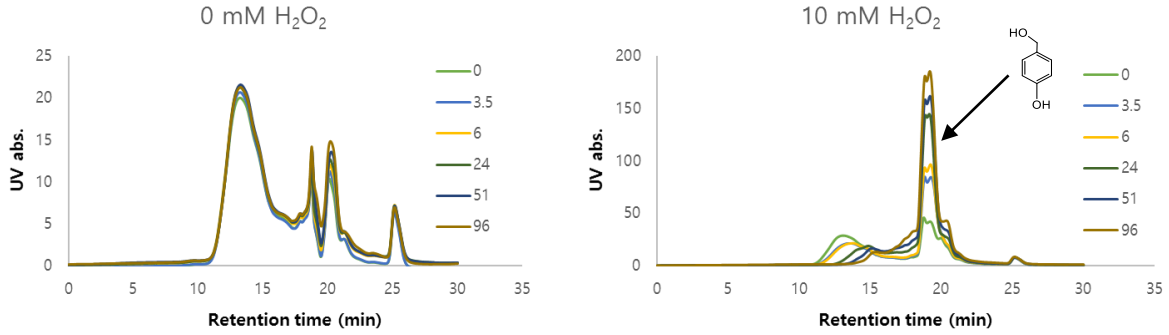

Figure S5. GPC profile of ROS-ARP in 0 mM (left) and 10 mM (right) H_2O_2. x/y axis is retention time/UV absorption signal intensity. (Retention time of 4-hydroxybenzyl alcohol was 19.7 min)

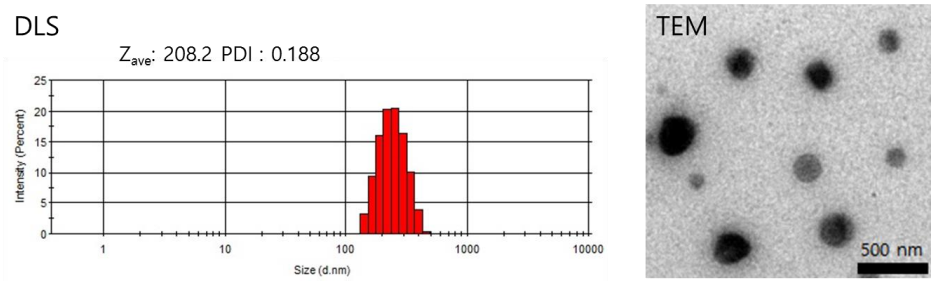

Figure S6. ROS-ARP NPs. Left is DLS data of particle and right is image of particles observed by TEM

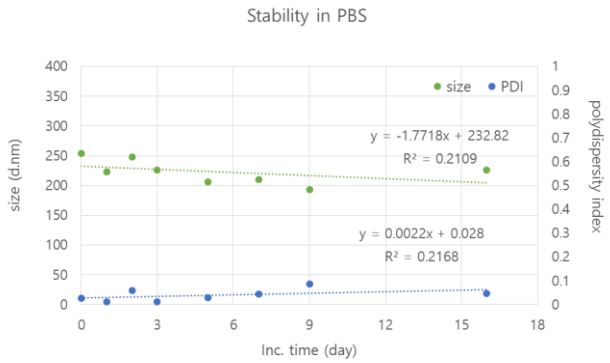

Figure S7. ROS-ARP NPs stability test by size and polydispersity change. Particles in phosphate buffer are incubated at 37 ºC for 16 days.

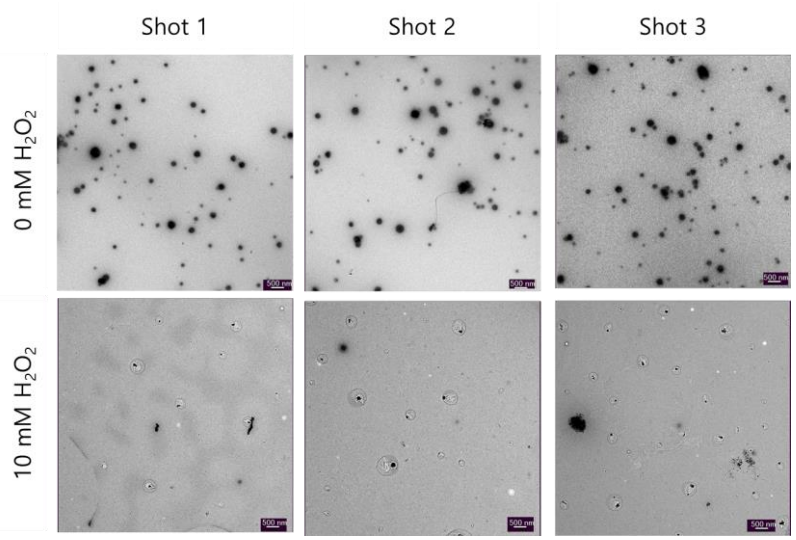

Figure S8. Representative TEM images of ROS-ARP nanoparticles in 0 mM H_2O_2 and 10 mM H_2O_2

		Value	Standard Error
Released Dye	Base line	1500	0
	Peak top	798	0
	Width	42.77	0
Loaded Dye	Base line	1500	0
	Peak top	823	0
	Width	42.77	0
	Calculated AUC	**14029**	**396**

Input parameter
= Fixed values
= Obtained from signal of free dye and NPs

R^2 = 0.98287 (Overall R^2 > 0.94)

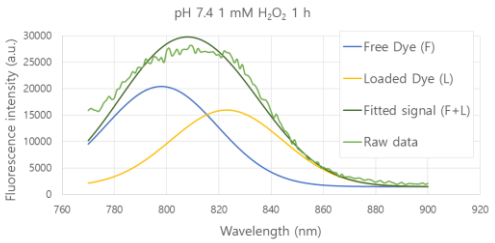

Figure S9. AUC Calculation values of released IR-780 at pH 7.4 with 1 mM H_2O_2, and input parameters for calculation. Input parameters were obtained from measurement of free IR-780 in same condition. (Lest) Fluorescence signal and separated loaded and released dye signal by fitting. (Right)

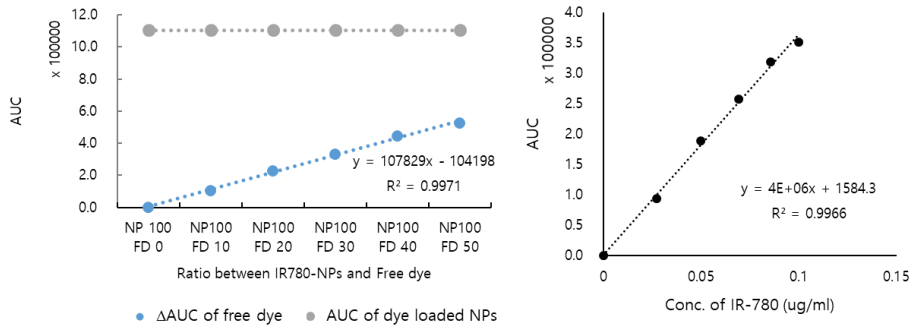

Figure S10. Calculated AUC of IR-780 loaded ROS-ARP NPs and free IR-780 by various mixing ratio. (Left) Calculated AUC of free IR-780 by its concentration. (Right)

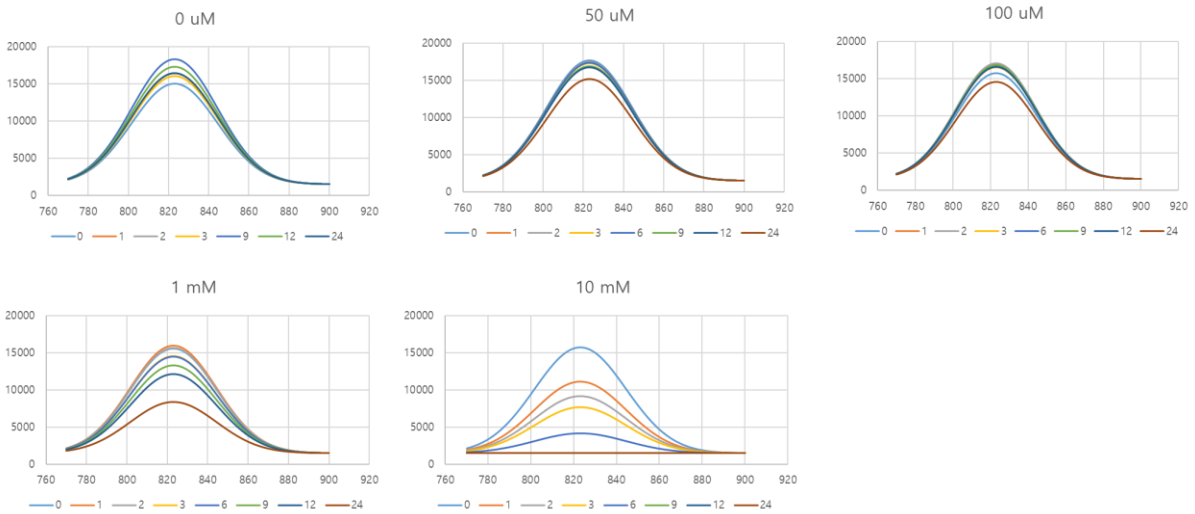

Figure S11. Separated IR-780 NPs signal from released IR-780 after Gaussian fitting.

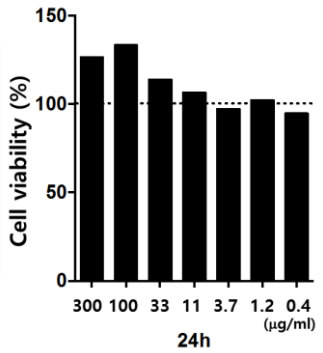

Figure S12. Cell viability of ROS-ARP NPs after 24 hours incubation.