

Supporting information

DOUBLE STIMULI-RESPONSIVE AZOBENZENE CONTAINING POLY(2-OXAZOLINE)S: SYNTHESIS, LIGHT, AND TEMPERATURE-RESPONSIVE BEHAVIOR

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Table S1. Setups of three series of polymers.

	EtOx	MeOTos	ACN	Terminator (KOH)	Time	M_n (g/mol)	\bar{D}
PEtOx ⁶	8 mL, 79.4 mmol	120 μ L, 0.8 mmol	11.8 mL	3.2 mmol	16 min	6000	1.39
PEtOx ^{15.1}	8 mL, 79.4 mmol	120 μ L, 0.8 mmol	11.8 mL	3.2 mmol	19 min	15100	1.11
PEtOx ^{17.5}	8 mL, 79.4 mmol	81 μ L, 0.5 mmol	11.8 mL	2.1 mmol	29 min	17500	1.22

Table S2. M_n and \bar{D} of hydrolyzed polymers.

Hydrolyzed polymers	Hydrolysis time, min	M_n (g/mol)	\bar{D}	Hydrolysis degree
P(EtOx_{0.94}-co-PEI_{0.06})^{5,9}	10	5900	1.35	6%
P(EtOx_{0.91}-co-PEI_{0.09})^{6,9}	50	6900	1.30	9%
P(EtOx_{0.88}-co-PEI_{0.12})⁷	100	7000	1.29	12%

$P(\text{EtOx}_{0.78}\text{-co-PEI}_{0.22})^{7.3}$	200	7300	1.27	22%
$P(\text{EtOx}_{0.97}\text{-co-PEI}_{0.03})^{15.2}$	50	15200	1.12	3%
$P(\text{EtOx}_{0.93}\text{-co-PEI}_{0.07})^{15.4}$	100	15400	1.11	7%
$P(\text{EtOx}_{0.85}\text{-co-PEI}_{0.15})^{14.4}$	200	14400	1.18	15%
$P(\text{EtOx}_{0.97}\text{-co-PEI}_{0.03})^{21.6}$	50	21600	1.08	3%
$P(\text{EtOx}_{0.93}\text{-co-PEI}_{0.07})^{18.3}$	100	18300	1.20	7%
$P(\text{EtOx}_{0.87}\text{-co-PEI}_{0.13})^{19.3}$	200	19300	1.17	13%

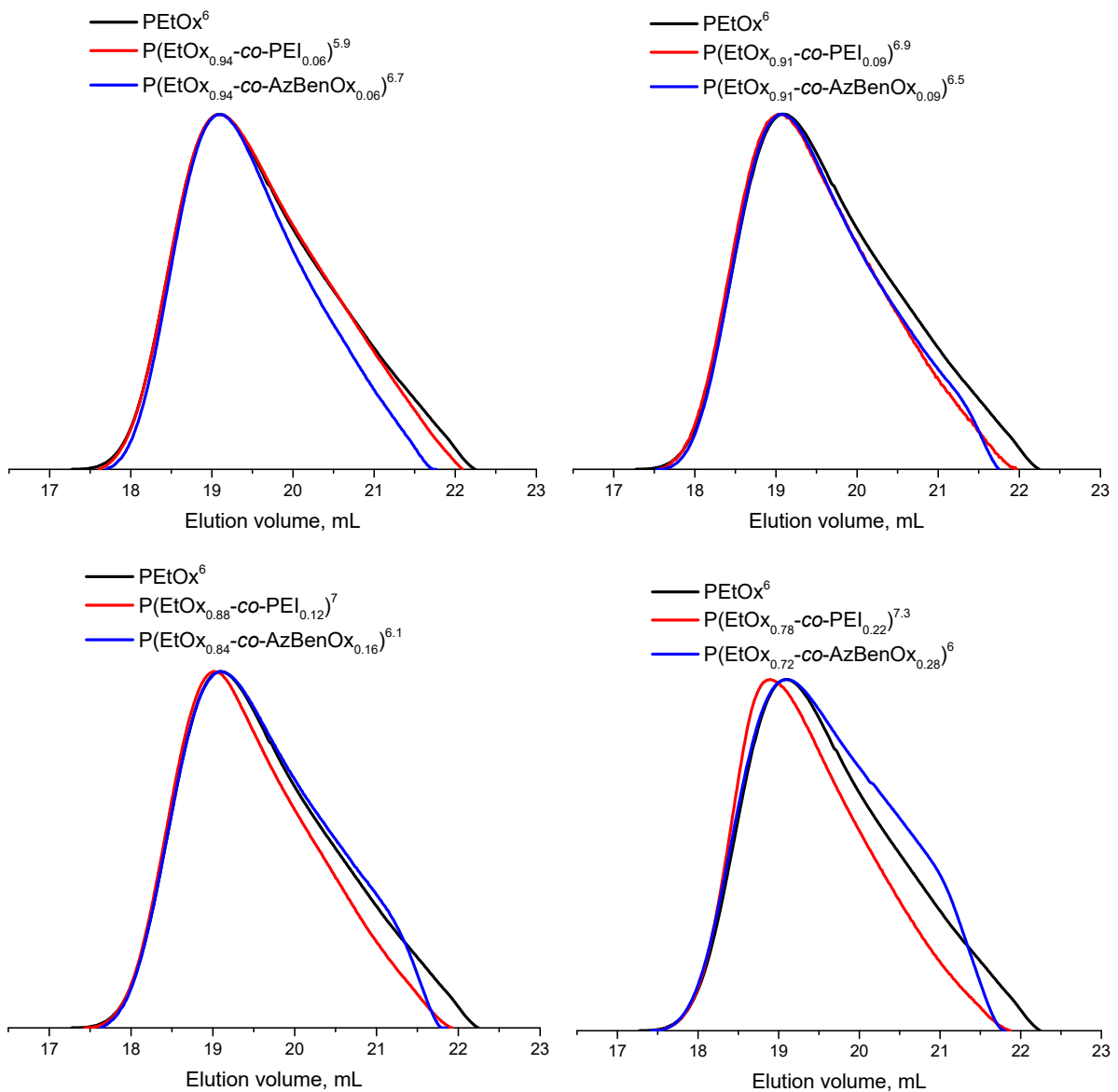


Figure S1. SEC (DMAc / LiCl) – Elugrams of $PEtOx^6$ series: initial $PEtOx$'s (black), hydrolyzed polymers $P(EtOx_x-co-PEI_y)$ (red), and modified polymers $P(EtOx_x-co-AzBenOx_y)$ (blue).

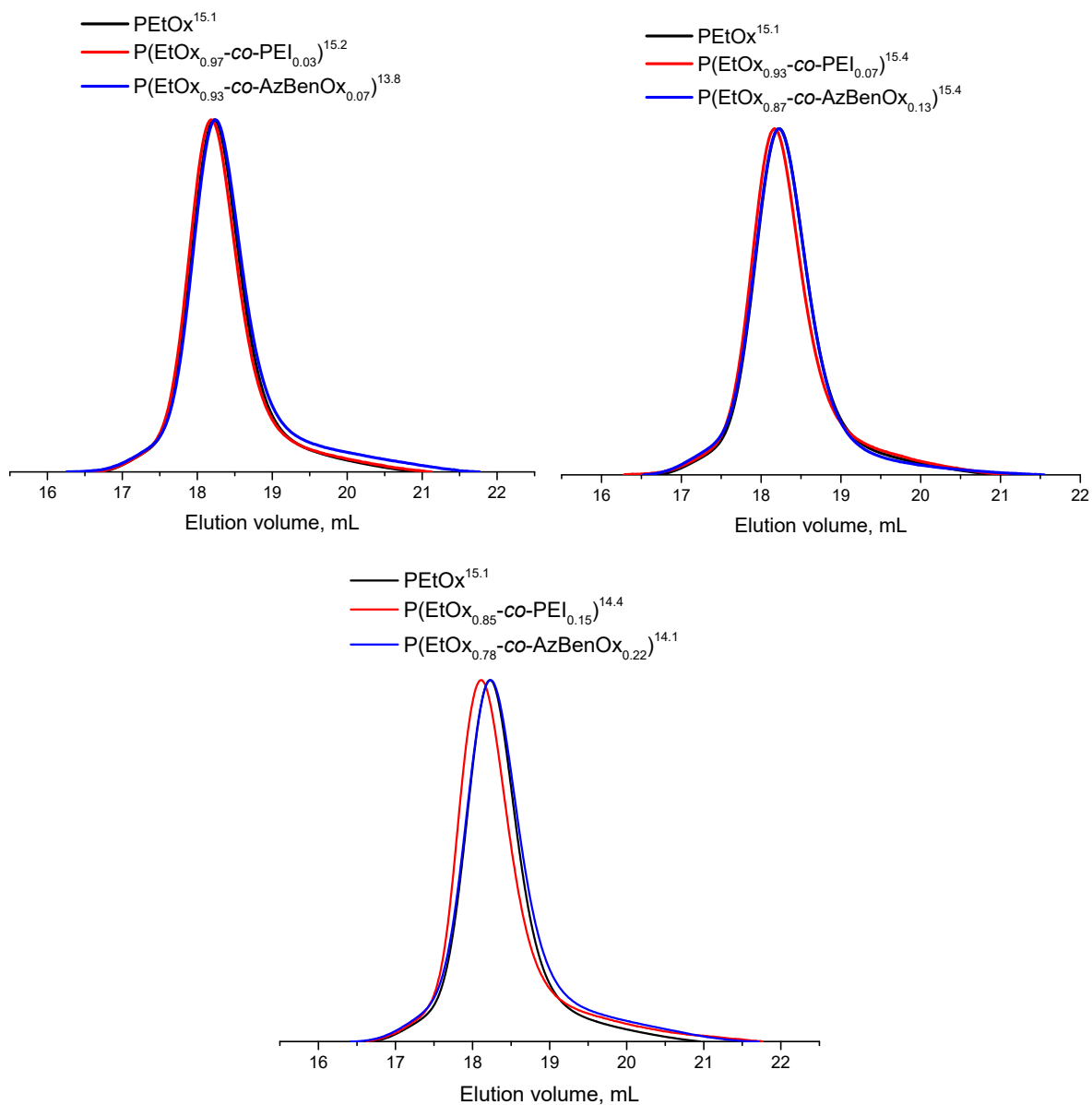


Figure S2. SEC (DMAc / LiCl) – Elugrams of $PEtOx^{15.1}$ series: initial $PEtOx$'s (black), hydrolyzed polymers $P(EtOx_x-co-PEI_y)$ (red), and modified polymers $P(EtOx_x-co-AzBenOx_y)$ (blue).

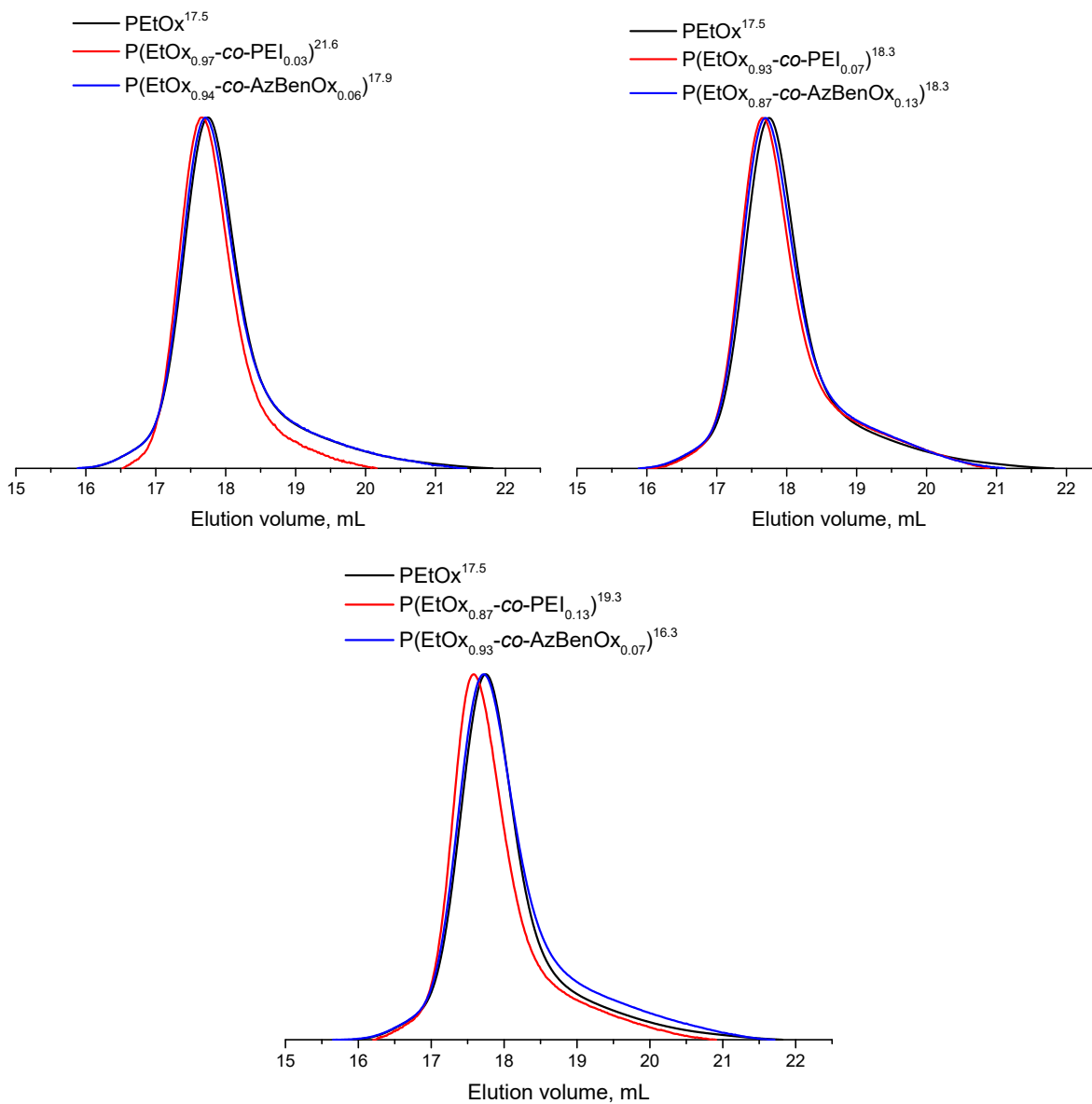


Figure S3. SEC (DMAc / LiCl) – Elugrams of PEtOx^{17.5} series: initial PEtOx's (black), hydrolyzed polymers P(EtOx_x-co-PEI_y) (red), and modified polymers P(EtOx_x-co-AzBenOx_y) (blue).

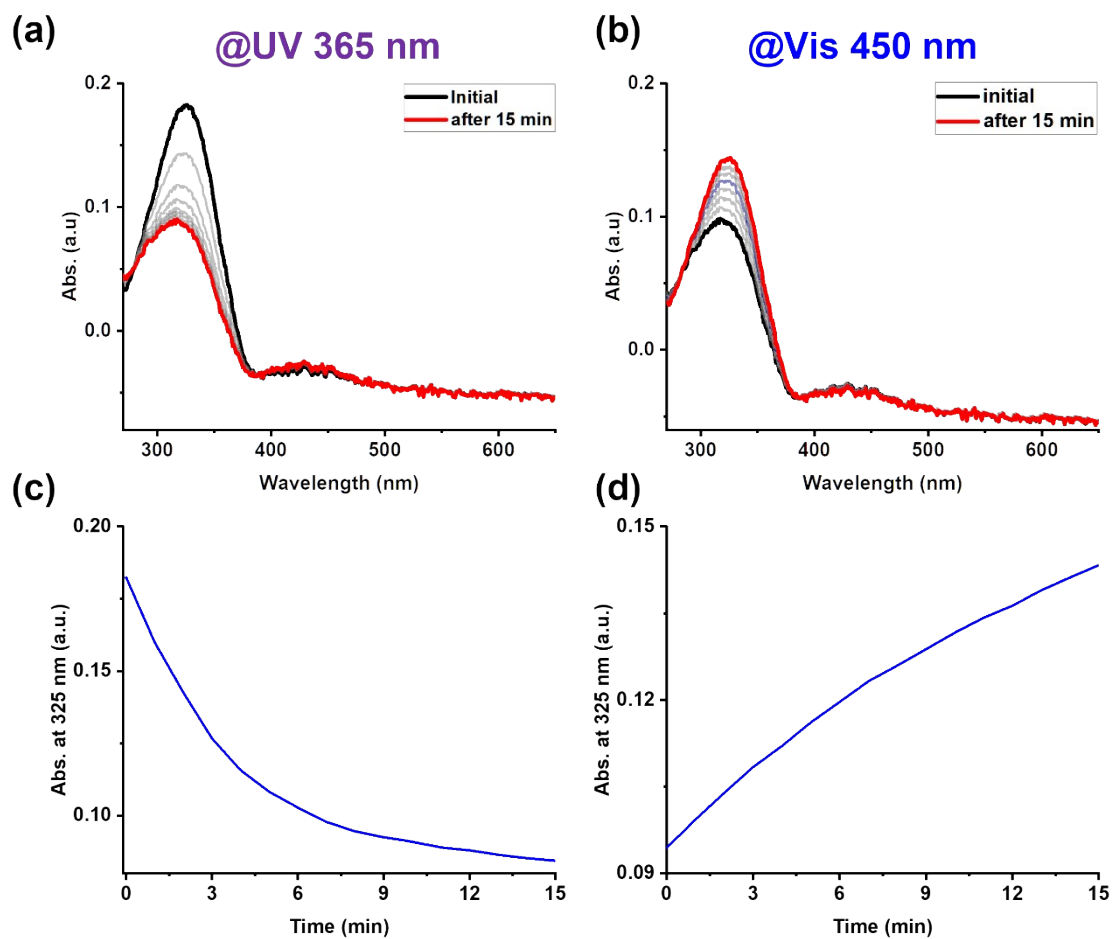


Figure S4. UV/Vis spectroscopy results of $P(\text{EtOx}_{0.91}\text{-co-AzBenOx}_{0.09})^{6.4}$, 0.02 mg/mL in water at 45°C. Arrows indicate from the beginning to the end of the corresponding light irradiation.

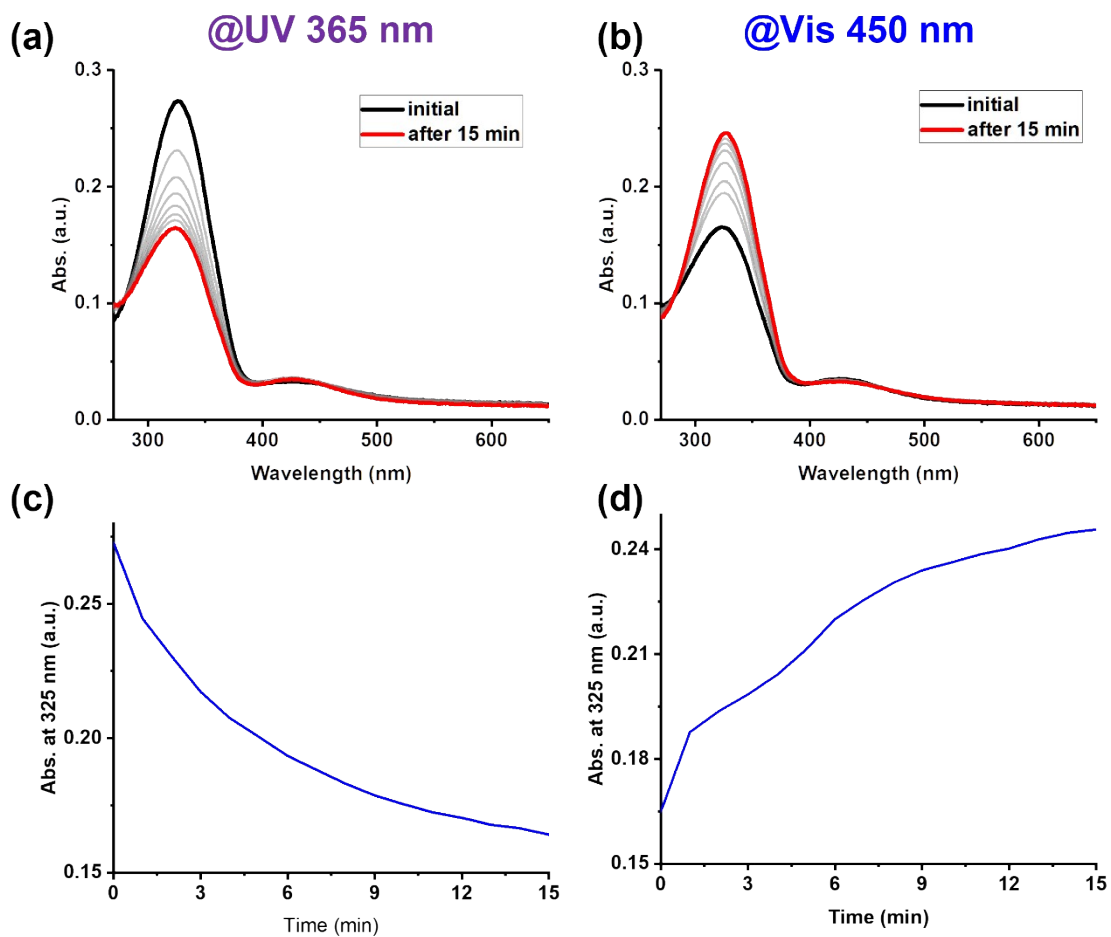


Figure S5. UV/Vis spectroscopy results of $P(\text{EtOx}_{0.84}\text{-co-AzBenOx}_{0.16})_{6.1}$, 0.02 mg/mL in water at room temperature. Arrows indicate from the beginning to the end of the corresponding light irradiation.

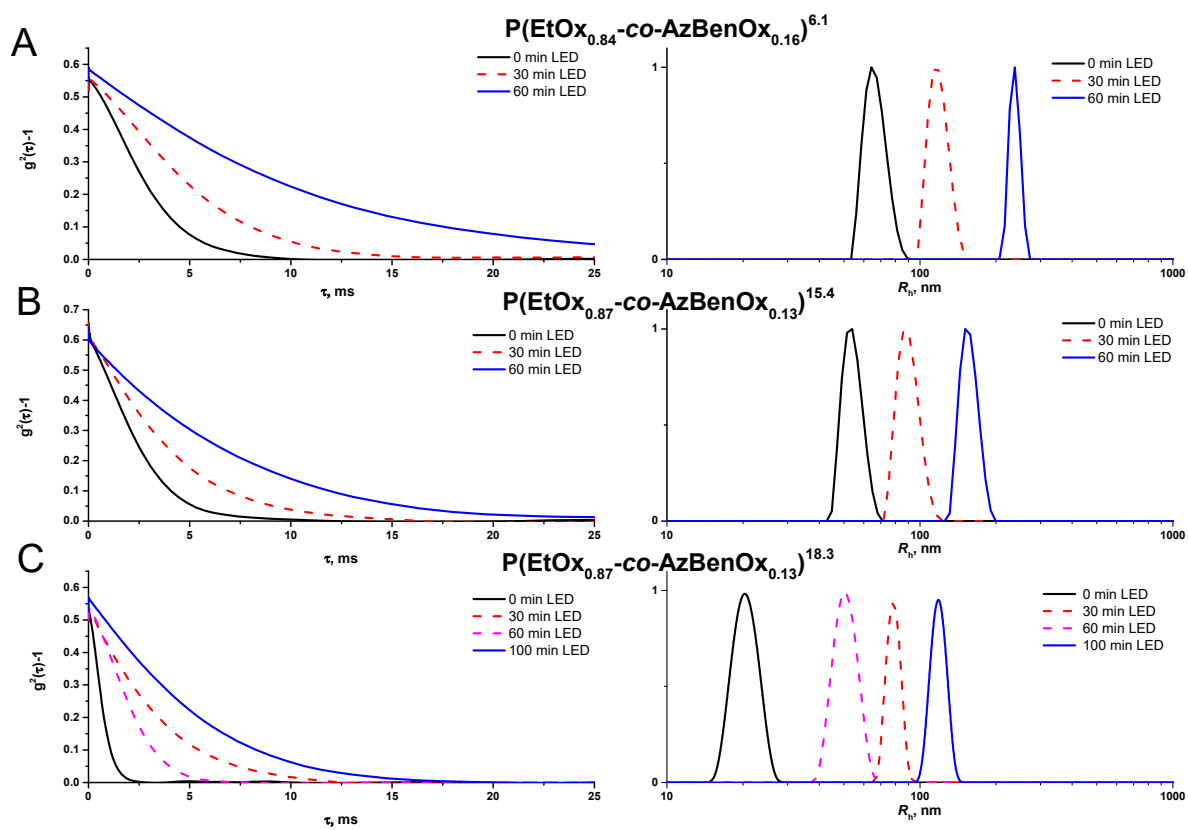


Figure S6. Autocorrelation functions and respective CONTIN plots for micellar nanoparticles in aqueous solution under different irradiation times (365 nm, LED).