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*Supplementary Materials*

# Perfluoropolyether Nanoemulsion Encapsulating Chlorin e6 for Sonodynamic and Photodynamic Therapy of Hypoxic Tumor

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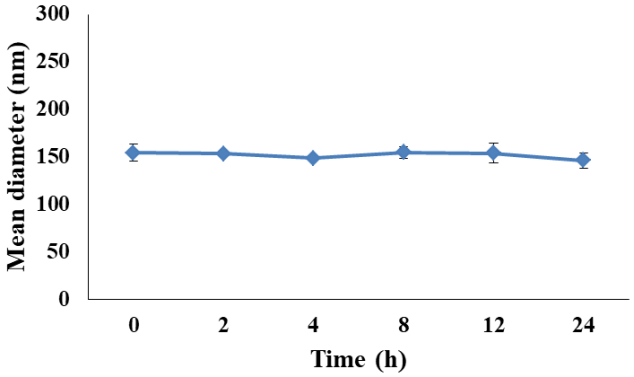


**Figure S1.** Droplet diameter change of the Ce6-P/W NEs in phosphate buffered saline throughout storage at 37 °C for 24 h. Ce6 concentration, 16 μg/mL. Data were presented as mean value ± standard deviation. After Levene's test for equality of variances, one-way analysis of variance (ANOVA) and Bonferroni multiple comparison test was employed for the comparison of mean values. n = 3. Ce6-P/W NE, chlorin e6-perfluoropolyether (PFPE)/water nanoemulsion.

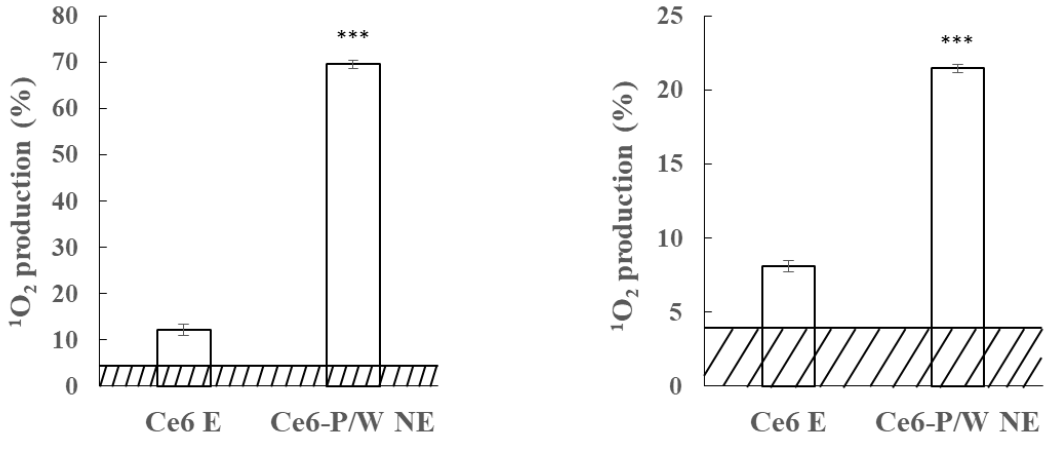

**Figure S2.** $^1O_2$ production of Ce6 Es and Ce6-P/W NEs under ultrasonic irradiation (0.25 W/cm$^2$, 2.1 MHz, 1 min) in normoxic condition at (**a**) 1 mg/mL (Ce6 concentration, 20 μg/mL) or (**b**) 0.5 mg/mL (Ce6 concentration, 10 μg/mL) Ce6-P/W NE. Data were presented as mean value ± standard deviation. After Levene's test for equality of variances, one-way analysis of variance (ANOVA) and Bonferroni multiple comparison test was employed for the comparison of mean values. n = 3. ***, $p < 0.001$. The shadow represents background signals detected by control (*i.e.*, water containing only DPBF) groups (2.9922 ± 0.8720%; 4.1107 ± 0.4619%). $^1O_2$, singlet oxygen. Ce6 E, chlorin e6 emulsion. Ce6-P/W NE, chlorin e6-perfluoropolyether (PFPE)/water nanoemulsion. DPBF, 1,3-diphenylisobenzofuran.

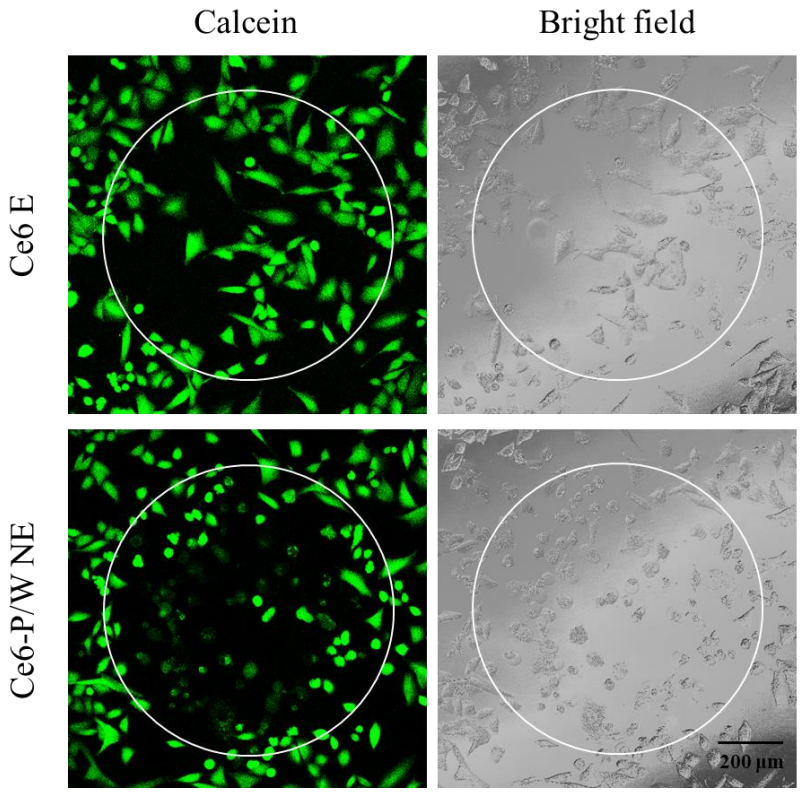


**Figure S3.** Calcein staining and corresponding bright-field images of PC-3 cells treated with Ce6 Es or Ce6-P/W NEs upon light irradiation (633 nm, 50 mW/cm$^2$) for 30 s in normoxic condition. Ce6-P/W NE concentration, 400 μg/mL. Ce6 concentration, 8 μg/mL. Green color shows living cells. The white circle indicates the irradiation area. Ce6 E, chlorin e6 emulsion. Ce6-P/W NE, chlorin e6-perfluoropolyether (PFPE)/water nanoemulsion.

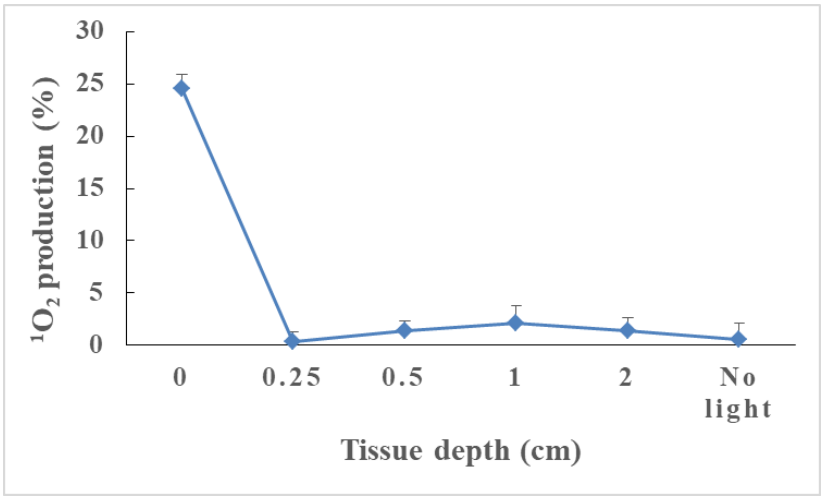

**Figure S4.** $^1O_2$ production of Ce6-P/W NEs at 200 μg/mL (Ce6 concentration, 4 μg/mL) at different tissue depth when irradiated with white light (60 lumens, 1 min). Data were presented as mean value ± standard deviation. After Levene's test for equality of variances, one-way analysis of variance (ANOVA) and Bonferroni multiple comparison test was employed for the comparison of mean values. n = 3. $^1O_2$, singlet oxygen. Ce6-P/W NE, chlorin e6-perfluoropolyether (PFPE)/water nanoemulsion.