Supporting information

Gamma radiation responsive side-chain tellurium-containing polymer for cancer therapy

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Additional Figures:

Figure S1. $^1$H NMR spectrum of Ar-Te-OH (400 MHz, CDCl$_3$, 298K).

Figure S2. $^1$H NMR spectrum of PEG-PAA-Te (400 MHz, DMSO-D$_6$, 298K).

Figure S3. $^1$H NMR spectrum of the Ar-Te-OH coordination with CDDP (400 MHz, DMSO- D$_6$, 298K). The peak 3.15 ppm was the $\alpha$ proton of tellurium after the coordination with CDDP.
Figure S4. ESI-Mass signals for the coordination complexes.

(a) Te-100, Te-100-cisPt

Figure S5. Characterization of the PEG-b-PAA-g-Te nanoparticles. (a) The size of the NPs before and after they were coordinated with CDDP, as measured by DLS. TEM images of (b) NPs-Te and (c) NPs-Te-Pt.

Figure S6. TEM images of 0.5 mg/mL PEG-b-PAA-g-Te/Pt after 2 Gy radiation (a) and 5 Gy radiation (b).
Figure S7. Cellular uptake. Flow cytometry images (a) and statistics (b) of the MDA-MB-231 cells treated with PEG-b-PAA-g-Te/Dox at different time points.

Figure S8. The confocal microscopic images of MDA-MB-231 cells treated with free Dox.

Figure S9. Cytotoxicity of the different nanoparticles in vitro. (a) Different concentrations of PEG-b-PAA. (b) Different grafting ratios of PEG-b-PAA-g-Te.
**Figure S10.** Cytotoxicity of the nanoparticles on different cells *in vitro*. (a) A549 cell. (b) HepG2 cells.

**Figure S11.** Flow cytometry measured the cell apoptosis. The sum of the Q₂ and Q₃ areas indicated the cell apoptosis.

**Figure S12.** Flow cytometry statistics (a) of the MDA-MB-231 cells treated with the different nanoparticles. (b) Caspase-3 activity after treatment with 100 μg/mL nanoparticles.