Porous PLGA Microspheres with Recruited Ions and Doxorubicin for Triple-Combination Therapy of Larger Hepatocellular Carcinoma[†]

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Scheme S1. Schematic illustration of the preparation of porous PLGA microspheres as MW-chemoembolization agent via several procedures.

1. Experimental Sections

1.1. In Vitro Release of DOX•HCl

The absorbance of phosphate-buffered saline (PBS, pH 7.2, containing 0.1% (w/v) Tween 80) with different concentration of DOX•HCl at 485 nm was obtained using UV absorption of a Spectrophotometer (U-3010, Hitachi, Japan), and their results were changed into a standard curve with the goodness of fit about 0.99, to evaluate the release rate at different conditions. Briefly, P-PLGA@DN microparticles (5 mg /mL, 1 mL) in EP tube were gently shaken at 37 °C under the microwave irradiation of 0 W and 2 W, and another isometric PBS is added. When the supernatant is completely collected at 0.5, 1, 2, 4, 8, 12 and 24 min, respectively. Every test was performed three times.



Fig. S1. SEM images of P-PLGA microspheres with low porosity via using 10 mg/mL NH_4HCO_3 (0.5 mL) as pore-forming agent.



Fig. S2. IR imaging of P-PLGA microspheres dispersed into saline with concentration of 35 mg/mL and irradiated by MW (0.6 W, 1.2W and 1.8W) for 5 min, saline as control was performed simultaneously with 1.8 W power.



Fig. S3. Cell viability of VX2 cells and H22 cells indicating the effect of treatment time when cells were incubated with P-PLGA-DN microparticles for 1, 2, 4 and 8 days at 37 ° C. P-PLGA-DN has significant cell inhibition abilities in comparison with the control (p < 0.01) after 1 days. Error bars indicate the standard deviation.



Fig. S4. Curves of relative body weight in Control, P-PLGA@DN, MW, DOX, P-PLGA@N+MW and P-PLGA@DN+MW after 16 days treatment.



Fig. S5. Representative images of organs (heart, liver, spleen, lung and kidney) in different groups after 16 days treatment, and scale bar is $100 \ \mu m$.



Fig. S6. Representative photographs of the tumours in control, DOX, MW, P-PLGA@DN, P-PLGA@N+MW and P-PLGA@DN+MW after 16 days treatment.