Supplementary Materials

Highly elastic polyvinyl alcohol embolic microspheres for effective transarterial embolization

Li Liu^{a,e,1}, Xiangxian Xu^{d,1}, Xiaoli Zhu^{e,1}, Meng Dang^b, Yunming Zhang^a, Donghong Shi^a, Shenzhe Liu^b, Zhiwei Zhang^b, Jing Pan^a, Jing Zhong^a, Lin Ou-yang^{*,c}, Zhaogang Teng^{*,b}, Longjiang Zhang^{*,a}

^aDepartment of Radiology, Jinling Hospital, Affiliated Hospital of Medical School, Nanjing University, Nanjing 210002, P.R. China

^bKey Laboratory for Organic Electronics and Information Displays and Jiangsu Key Laboratory for Biosensors, Institute of Advanced Materials, Jiangsu National Synergetic Innovation Centre for Advanced Materials, Nanjing University of Posts and Telecommunications, Nanjing 210023, P.R. China

^cDepartment of Radiology, The 909th Hospital, School of Medicine, Xiamen University, Zhangzhou 363020, P.R. China

^dDepartment of Radiology, Jiangsu Province Hospital of Chinese Medicine, Affiliated Hospital of Nanjing University of Chinese Medicine, Nanjing 210029, P.R. China

^eDepartment of Interventional Radiology, The First Affiliated Hospital of Soochow University, Suzhou 215006, P.R. China

*Corresponding authors.

E-mail addresses: kevinzhlj@163.com (L.J. Zhang), iamzgteng@njupt.edu.cn (Z.G. Teng), ddcqzg@126.com (L. Ouyang).

¹These authors contributed equally to this work.



Fig. S1 Characterization of MegaSphere microspheres. (A) MegaSphere microspheres exhibit a blue appearance. (B) The performance of MegaSphere microspheres after being left standing in PBS solution.



Fig. S2 (A, B) Scanning electron microscope images of MegaSphere. (C) FTIR spectrum of MegaSphere.



Fig. S3 Photographs of MegaSphere microspheres and CalliSphere microspheres after loading doxorubicin (Dox) for 30 minutes.



Fig. S4 The blood routine examination, liver function examination, blood coagulation function examination, cardiac function examination, kidney function examination, and related inflammatory factors examination were conducted on the control, MegaSphere, CalliSphere, and DC Bead groups before and 7 days after renal artery embolization. Comparative analysis of alterations in hematological parameters in each group of rabbits before and 7 days after renal artery embolization.

n = 3 biologically independent samples. Data are presented as means \pm SD, ns : p > 0.05 and **** : p < 0.0001.



Fig. S5 The blood routine examination, liver function examination, blood coagulation function examination, cardiac function examination, kidney function examination, and related inflammatory factors examination were conducted on the control (control), MegaSphere-Dox (MegaSphere), CalliSphere-Dox (CalliSphere), and DC Bead-Dox (DC Bead) groups before and 7 days after TACE treatment in a liver tumor xenograft model. Comparative analysis of alterations in hematological

parameters in each group before TACE and 7 days after TACE. n = 3 biologically independent samples. Data are presented as means \pm SD, ns : p > 0.05, *** : p < 0.001, and **** : p < 0.0001.