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Multifunctional Biodegradable Terbium-Doped Calcium Phosphate Nanoparticles: Facile Preparation, pH-Sensitive Drug Release and *in Vitro* Bioimaging

Han-Bing Shang,[a,†] Feng Chen[b,†], Jin Wu,[b] Chao Qi,[b] Bing-Qiang Lu,[b] Xi Chen,[c,*] Ying-Jie Zhu[b,*]

[a] Department of Neurosurgery, Rui Jin Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai 200025, P. R. China.

[b] State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, P. R. China.

[c] Department of Preventive and Pediatric Dentistry, Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai 200011, P. R. China

† These authors contributed equally to this work and should be considered as co-first authors.

*Corresponding author:

Phone: 0086-21-52412616. Fax: 0086-21-52413122.

E-mail: y.j.zhu@mail.sic.ac.cn (Y. J. Zhu); cherry_cxnet@hotmail.com (X. Chen)

Determination of drug loading capacity：

The drug loading capacity was estimated by TG analysis of the as-prepared Tb−CaP nanoparticles without and with docetaxel loading (Figure 5a). The drug loading capacity (y) was calculated according to the following formula:

$$y = \frac{\Delta W2 - \Delta W1}{1 - \Delta W2} \times 100\ \%$$

The $\Delta W1$ (14.6 %) and $\Delta W2$ (22 %) are the weight loss of Tb−CaP nanoparticles without and with docetaxel loading, respectively. Therefore, the docetaxel loaded in the Tb−CaP nanoparticles is calculated to be about 95 mg g^{-1} (mg drug per gram of the carrier).

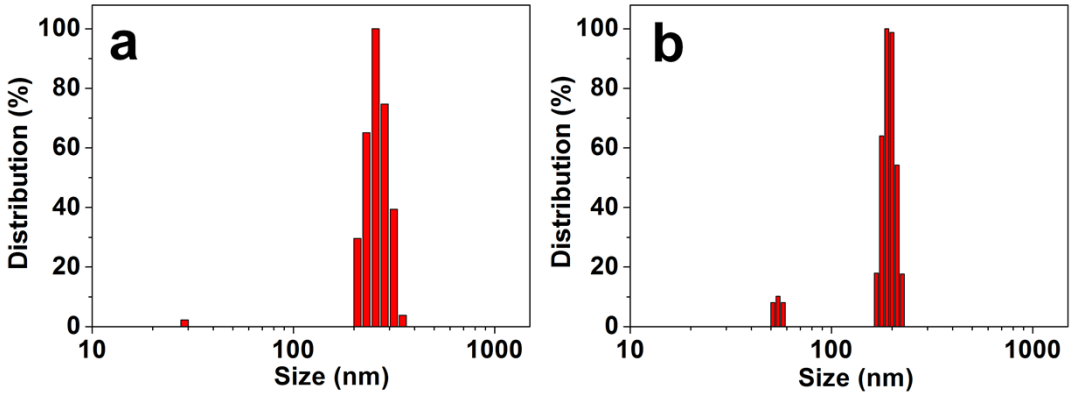

Figure S1. Size distributions of the as-prepared undoped CaP nanoparticles (a) and Tb−CaP nanoparticles (b) dispersed in ethanol measured by dynamic light scattering (DLS).

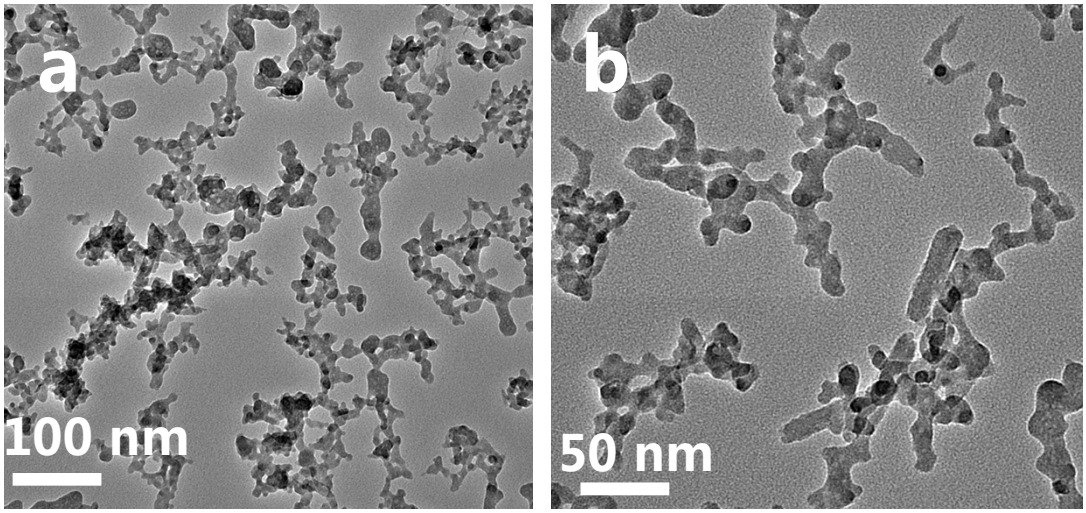

Figure S2. TEM micrographs of undoped CaP nanoparticles prepared in the absence of mPEG-PLA.

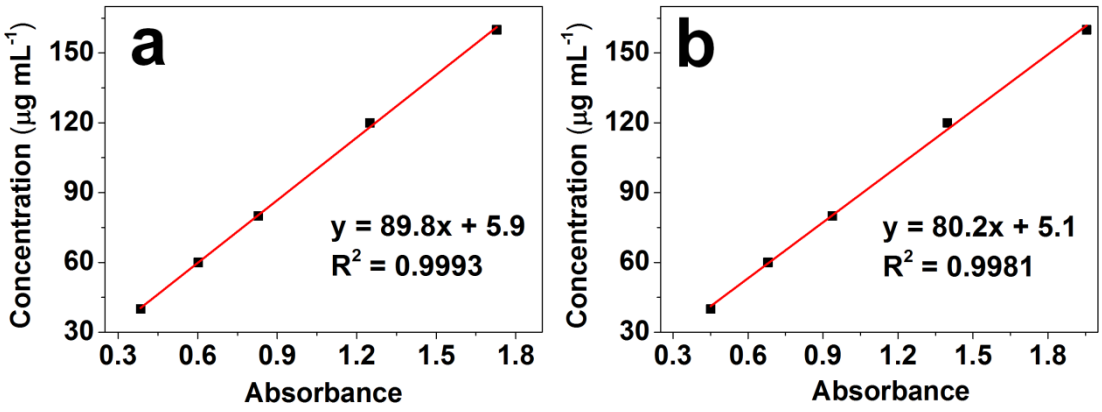

Figure S3. The calibration curves measured in PBS solutions with different pH values of 4.5 (a) and 7.4 (b) used for the quantification of docetaxel release by the UV-vis absorption analysis.

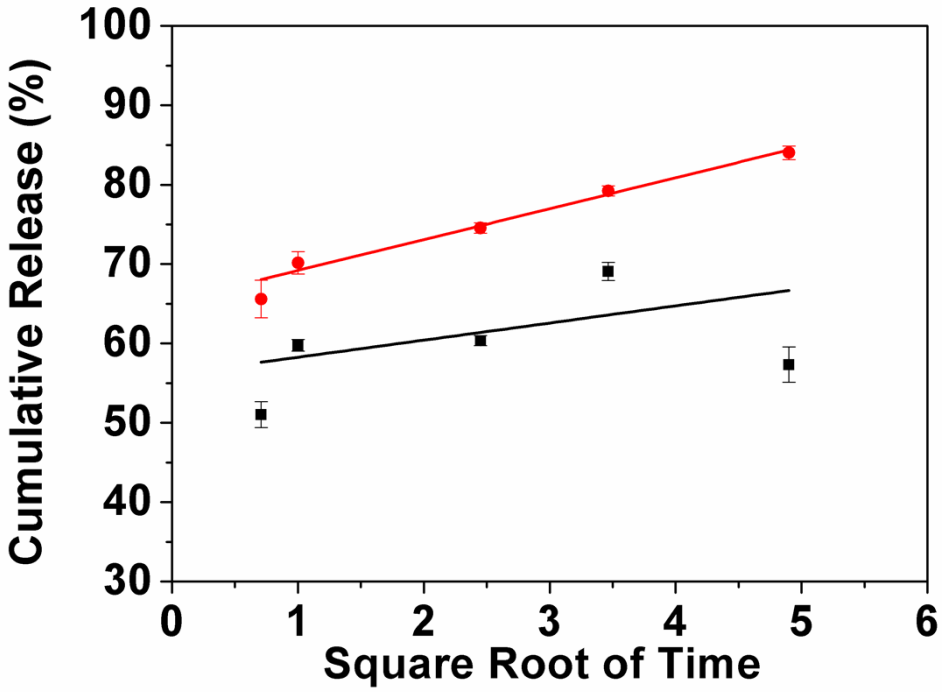

Figure S4. The cumulative docetaxel drug release percentage versus square root of release time for docetaxel-loaded Tb-CaP nanoparticles in PBS with different pH values of 4.5 and 7.4.