Electronic supplementary information

The hemostatic efficacy of TiHS was evaluated in a model of lethal extremity arterial bleeding. All experiments were performed in accordance with the Academy of Military Medical Sciences Guide for Laboratory Animals. Thirty New Zealand white rabbits (wt 3 kg) were used at the age of 4 months and fasted 24 h before assay. The rabbits were anesthetized by intravenous injection of sodium pentobarbital (45 mg/kg) and then a unilateral femoral artery was exposed. A severe extremity arterial hemorrhage was then produced by puncturing the femoral artery with a 16 G needle. The wound was covered and squeezed with TiHS to staunch bleeding in inguinal cavity. No bleeding could be observed after 2 minutes of manual pressure. The sponge was removed from the injury site at 10 min post-treatment and sticky sealing of the wound area was visualized. Clean and neat wound was observed after removal of TiHS and only a small area of the sponge that directly contacted with the bleeding site was found partially penetrated with blood. Macroscopic observation of immediate bleeding and secondary bleeding during the subsequent 10 minutes of observation time was recorded. All animals received only one piece of hemostatic materials and one compression. At the end of the study period, each groin was opened and visually examined. Liquid and clotted inguinal blood was suctioned or absorbed by pre-weighted cotton pad to weigh the blood loss. The samples that resulted in successful hemorrhage control were carefully removed and immediately freeze-dried and sectioned for examination of blood infiltration and clot formation.