

## Supporting Information

### Self-Propelled Bioglass Janus Nanomotors for Dentine Hypersensitivity Treatment

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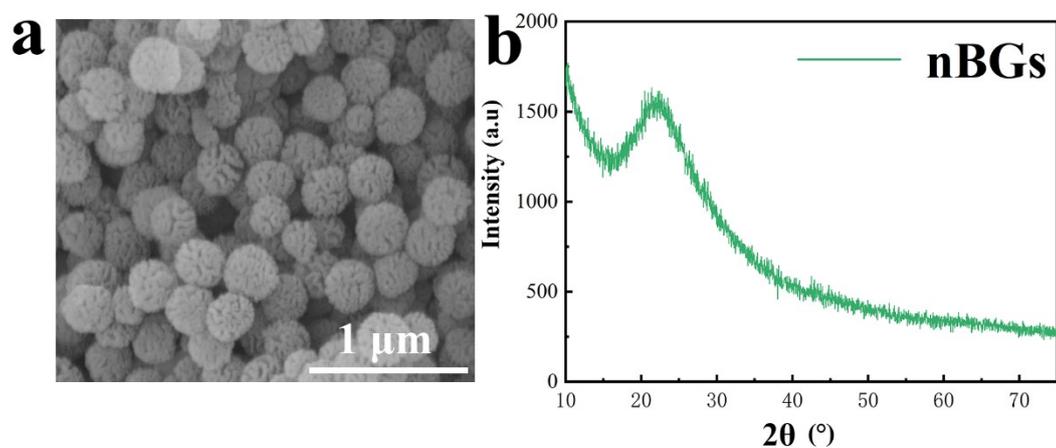
#### ■ Supplementary videos

**Video S1.** Motion behavior of nBGs@Pt in H<sub>2</sub>O (with no fuel, 1% H<sub>2</sub>O<sub>2</sub>, 3% H<sub>2</sub>O<sub>2</sub>, 5% H<sub>2</sub>O<sub>2</sub>) under optical microscope.

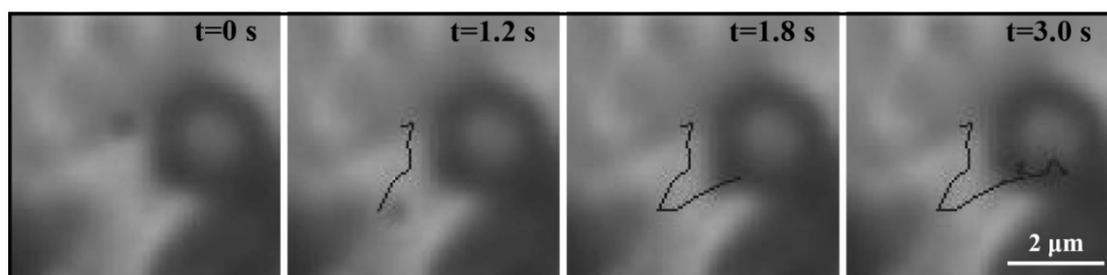
**Video S2.** Motion behavior of nBGs@Pt in ASL (with 3% H<sub>2</sub>O<sub>2</sub>), in Ringer's solution (with 3% H<sub>2</sub>O<sub>2</sub>) under optical microscope.

**Video S3.** Motion behavior of nBGs@Pt on PC film (Ringer's solution dispersion, with 3% H<sub>2</sub>O<sub>2</sub>) (1:1 v/v) under optical microscope.

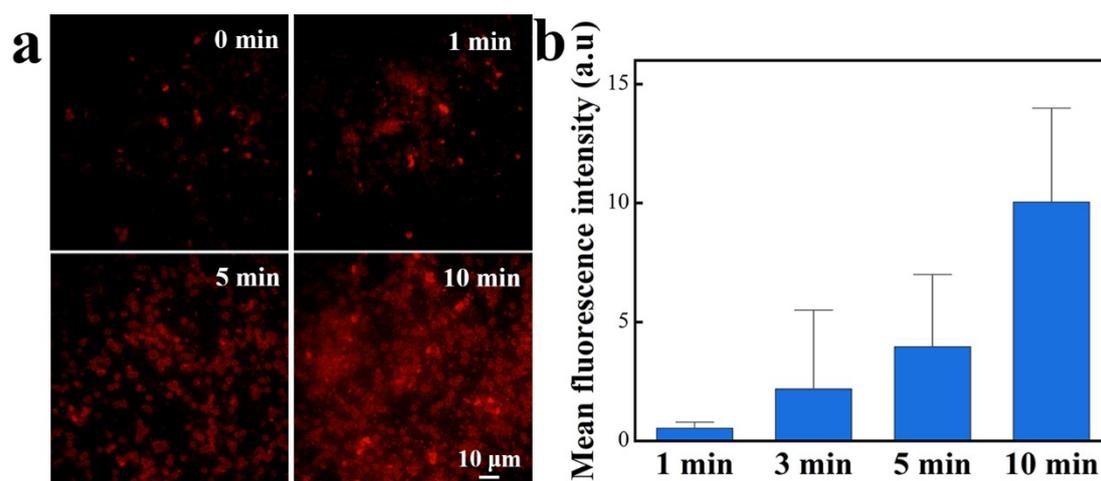
## ■ Supplementary Figures



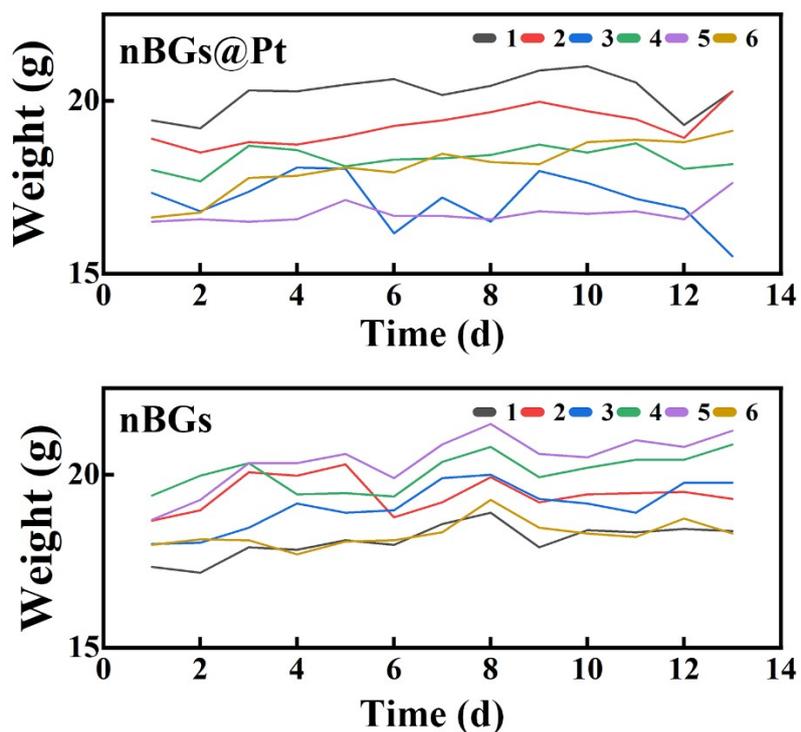
**Figure S1.** (a) SEM image of nBGs, (b) XRD analysis of nBGs.



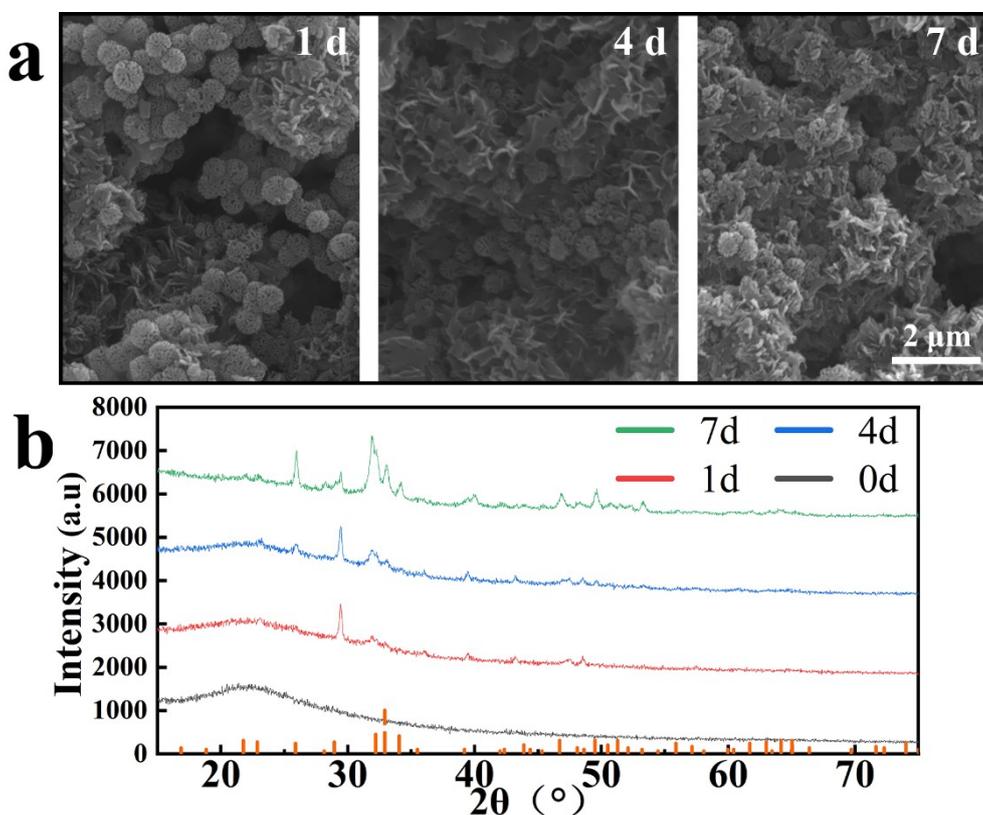
**Figure S2.** Optical microscope time lapse image of a nBGs@Pt successfully entering micropore of polycarbonate film.



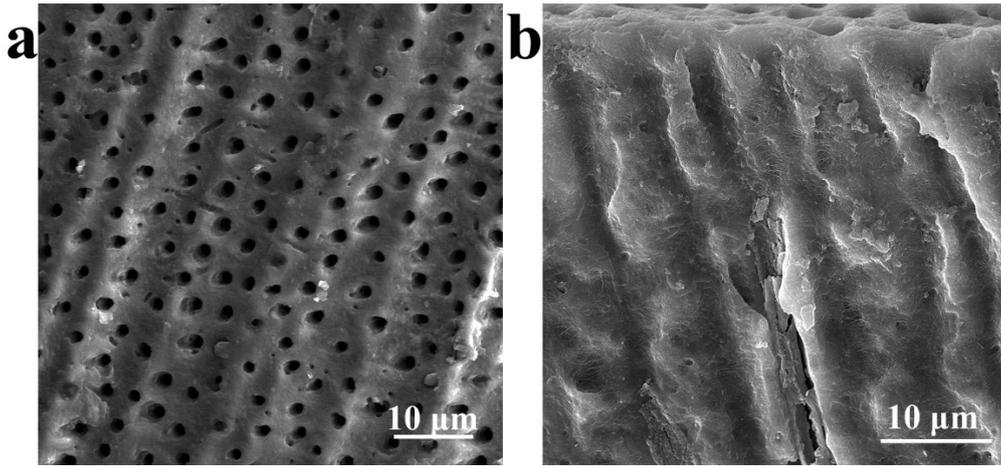
**Figure S3.** (a) Dark field optical microscope images of nBGs@Pt modified by fluorescence entered micropore of polycarbonate film under different field of view and different processing time. (b) Analysis of average fluorescence intensity at different time.



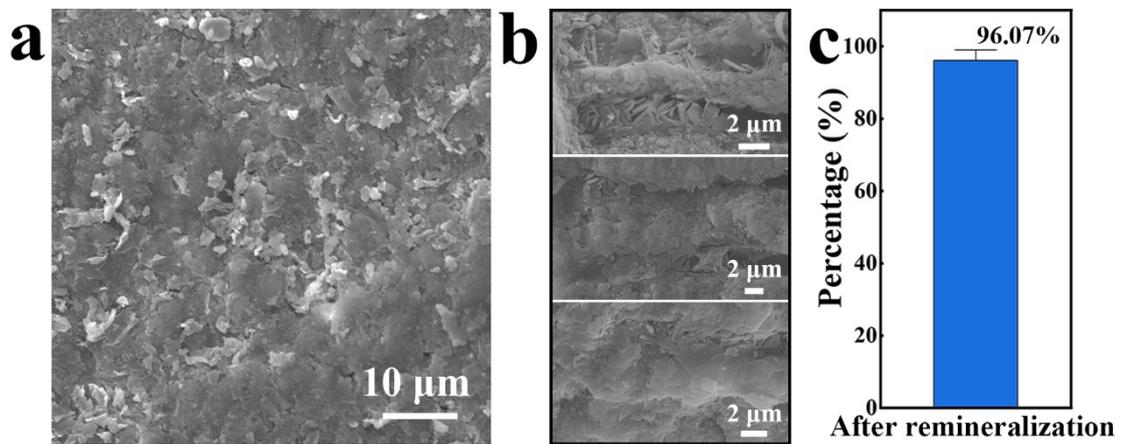
**Figure S4.** Body weight change of mice: after continuous dosing nBGs@Pt and nBGs 3 days then feeding for another 10 days.



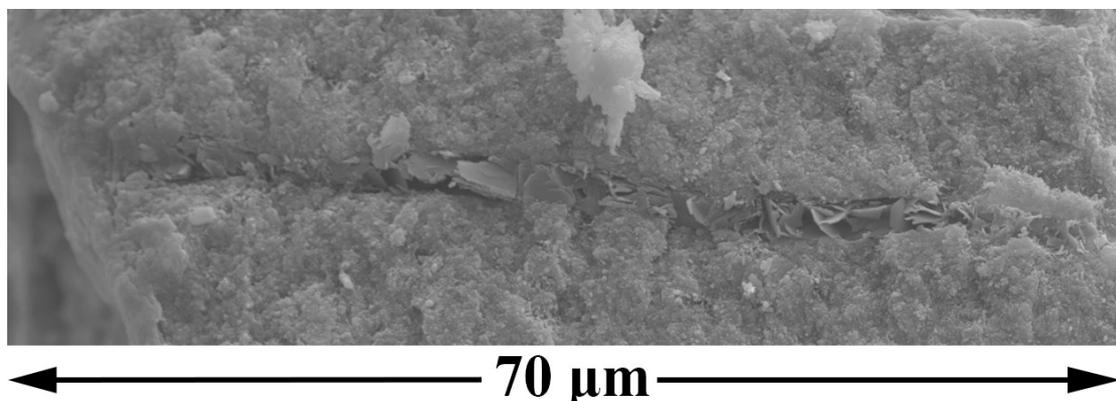
**Figure S5.** (a) SEM images of nBGs after incubation with ASL for 1, 4 and 7 d. (b) XRD analysis of nBGs after incubation with ASL for 0, 1, 4 and 7 d.



**Figure S6.** (a) Cross section of dentinal tubule after acid etching. (b) Longitudinal section of dentinal tubule after acid etching.



**Figure S7.** (a) SEM images of after remineralization the surface morphology of dentin disks. (b) SEM images of longitudinal sections of dentin tubules at different positions after mineralization. (c) The blocking rate of dentin disks after remineralization.



**Figure S8.** The longest HA blocking depth in this study formed by nBGs@Pt.