

Supporting Information

**Biom mineralization-Inspired Sandwich Dentin Desensitization Strategy
Based on Multifunctional Nanocomposite with Yolk-Shell Structure**

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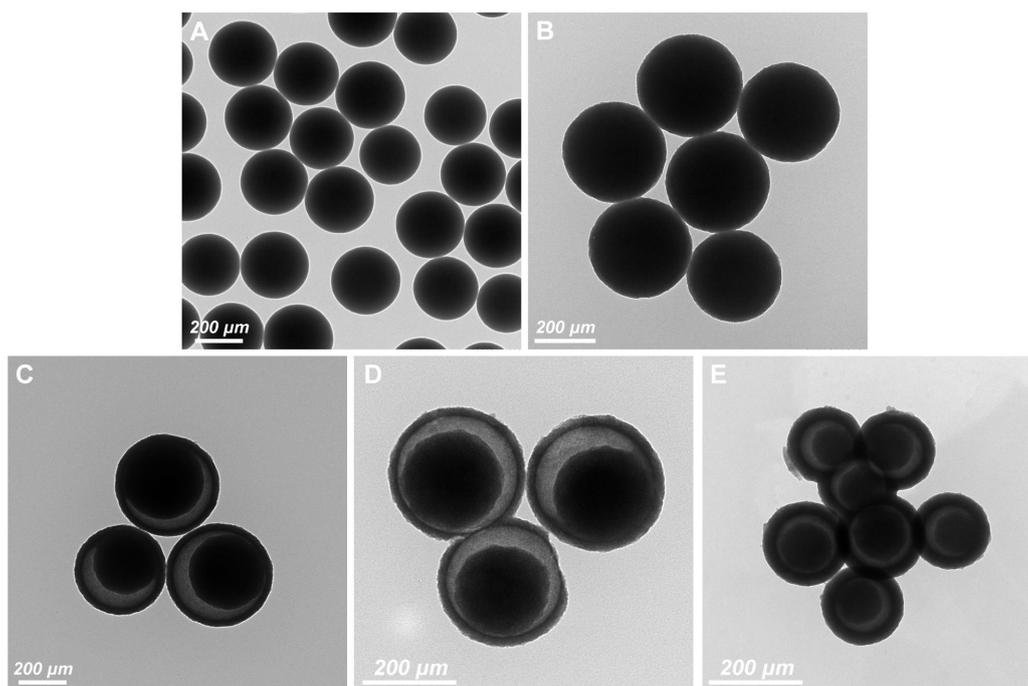


Figure S1. The low magnification of intermediate products in the synthesis process of PSTZ. (A) SiO_2 , (B) core-shell $\text{SiO}_2@TiZrO_2$, (C) yolk-shell $\text{SiO}_2@TiZrO_2$, (D) yolk-shell $\text{SiO}_2@mTiZrO_2$ (STZ), (E) PAH-ACP@yolk-shell $\text{SiO}_2@mTiZrO_2$ (PSTZ).

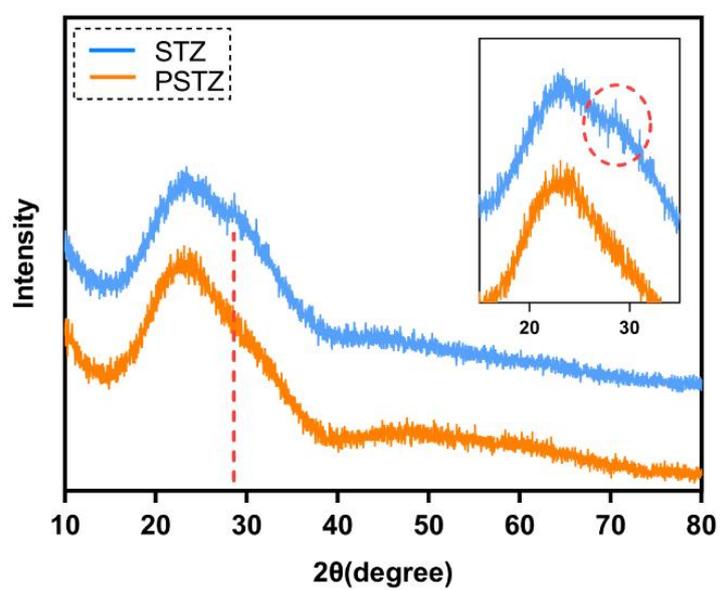


Figure S2. XRD pattern of STZ and PSTZ.

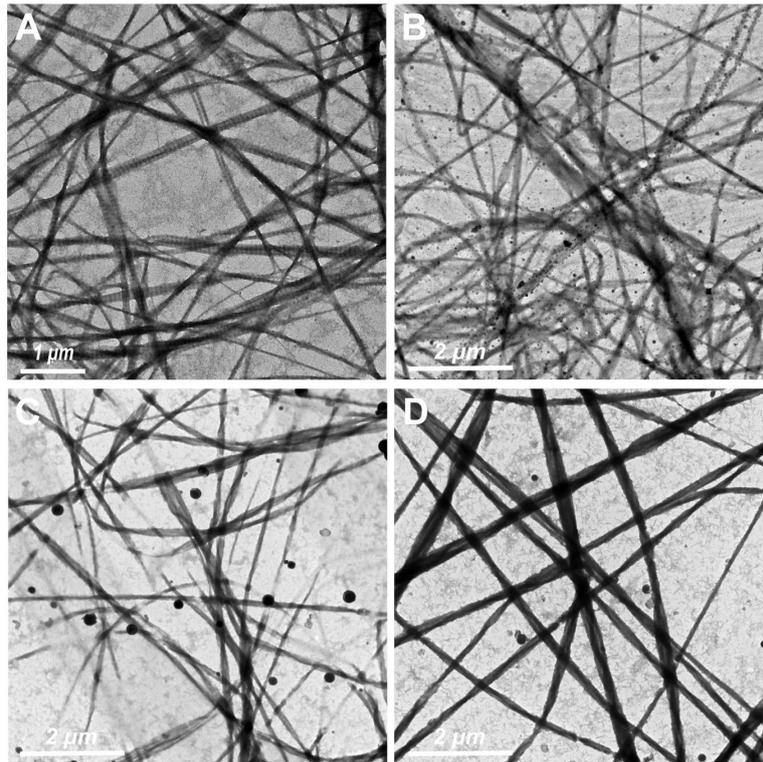


Figure S3. The low magnification of representative TEM images of stained unmineralized collagen fibrils (A) and PSTZ-mediated intrafibrillar mineralization after 1 d (B), 4 d (C), 7 d (D) incubation.

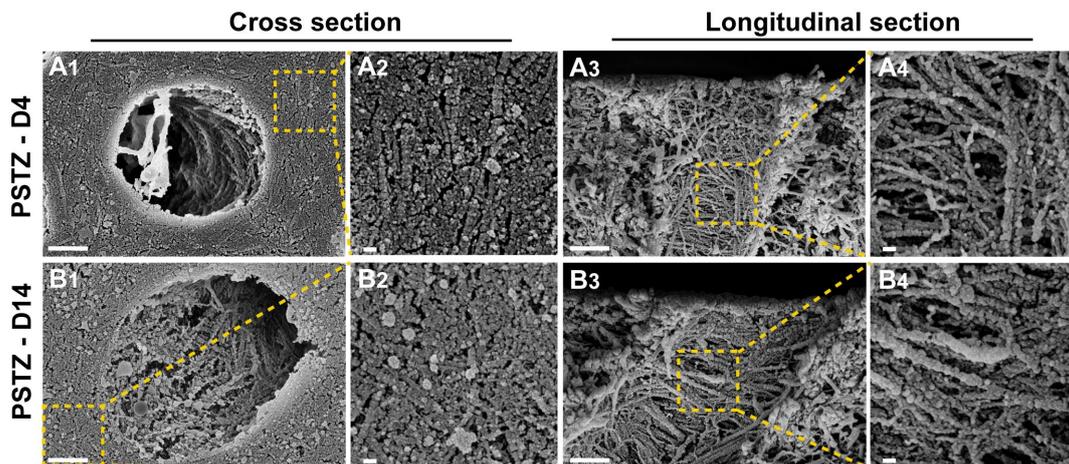


Figure S4. Representative FESEM images of PSTZ-mediated remineralization of DDM on 4 d (A), 14 d (B). Cross images were shown in A₁-B₁ and A₂-B₂, longitudinal section images were shown in A₃-B₃ and A₄-B₄. High-magnification images (A₂-B₂ and A₄-B₄) were magnified from the selected area (yellow square) in the low-power image (A₁-B₁ and A₃-B₃). Scale bar in (A₁-B₁ and A₃-B₃), 1 μm, in (A₂-B₂ and A₄-B₄), 100 nm.

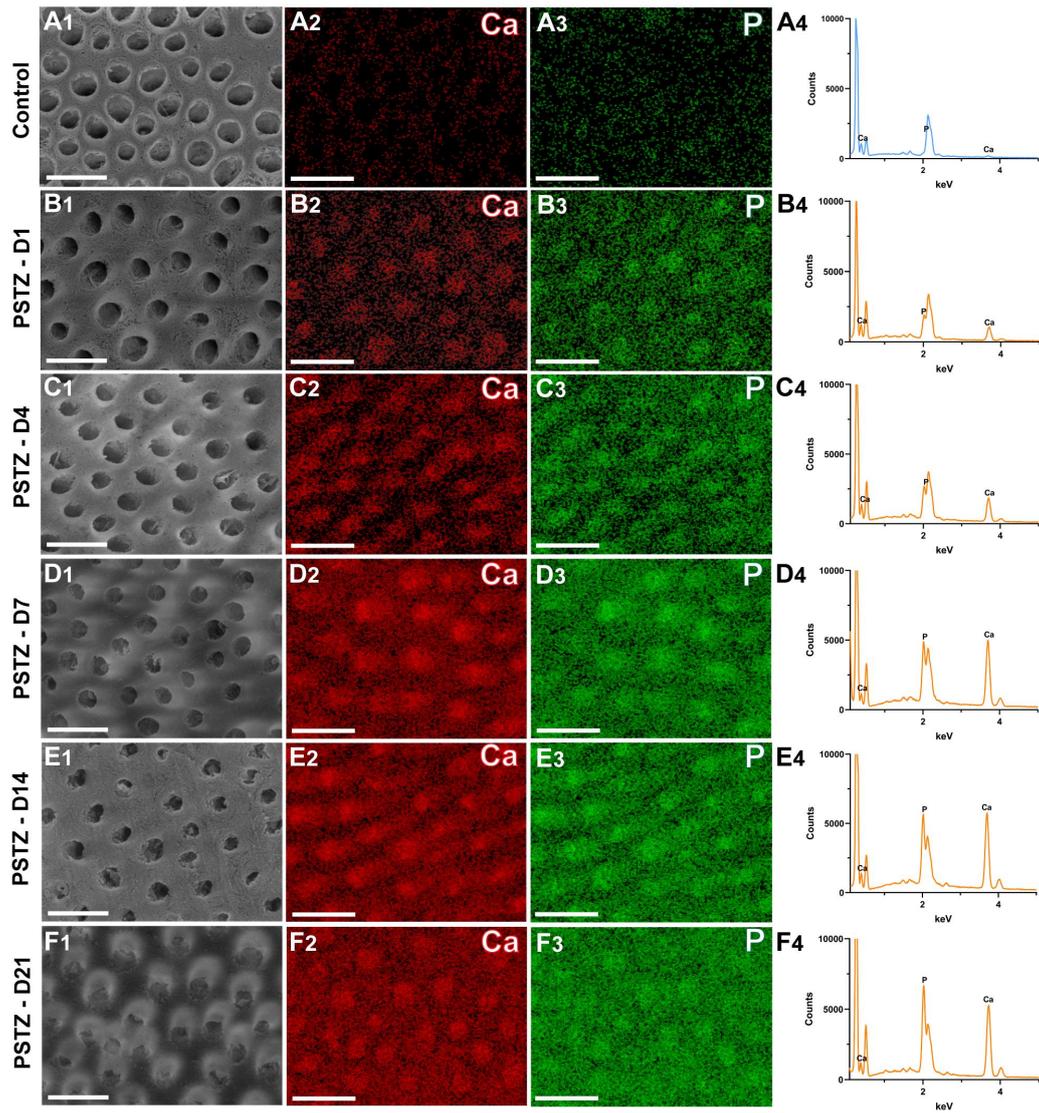


Figure S5. Representative cross-section FESEM images of DDM remineralized with PSTZ-containing solution after 0 d (A₁), 1 d (B₁), 4 d (C₁), 7 d (D₁), 14 d (E₁), 21 d (F₁). Corresponding elemental distribution (A₂-F₂, A₃-F₃) and contents of Ca and P (A₄-F₄). Scale bar, 10 μ m.

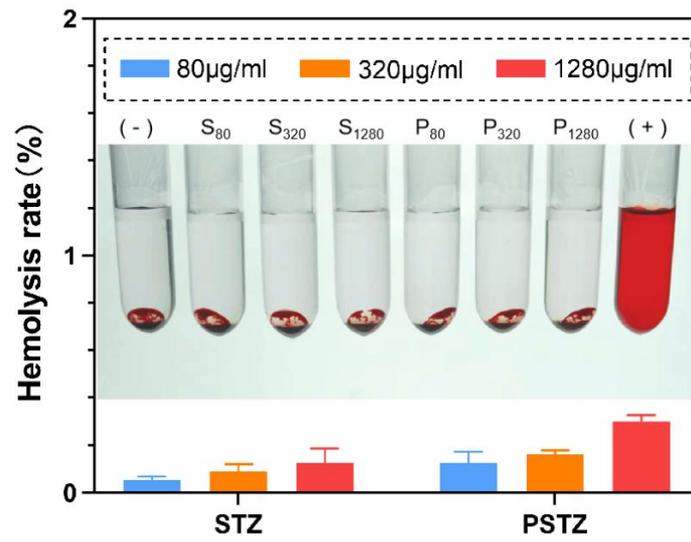


Figure S6. Effect of STZ and PSTZ on the hemolysis of erythrocytes. Data are presented as mean \pm SD (N = 3). Inset: micro-images of haemolysis results.