

Supporting Information

Antibacterial Gluey Silver-Calcium Phosphate Composite for Dentine Remineralization

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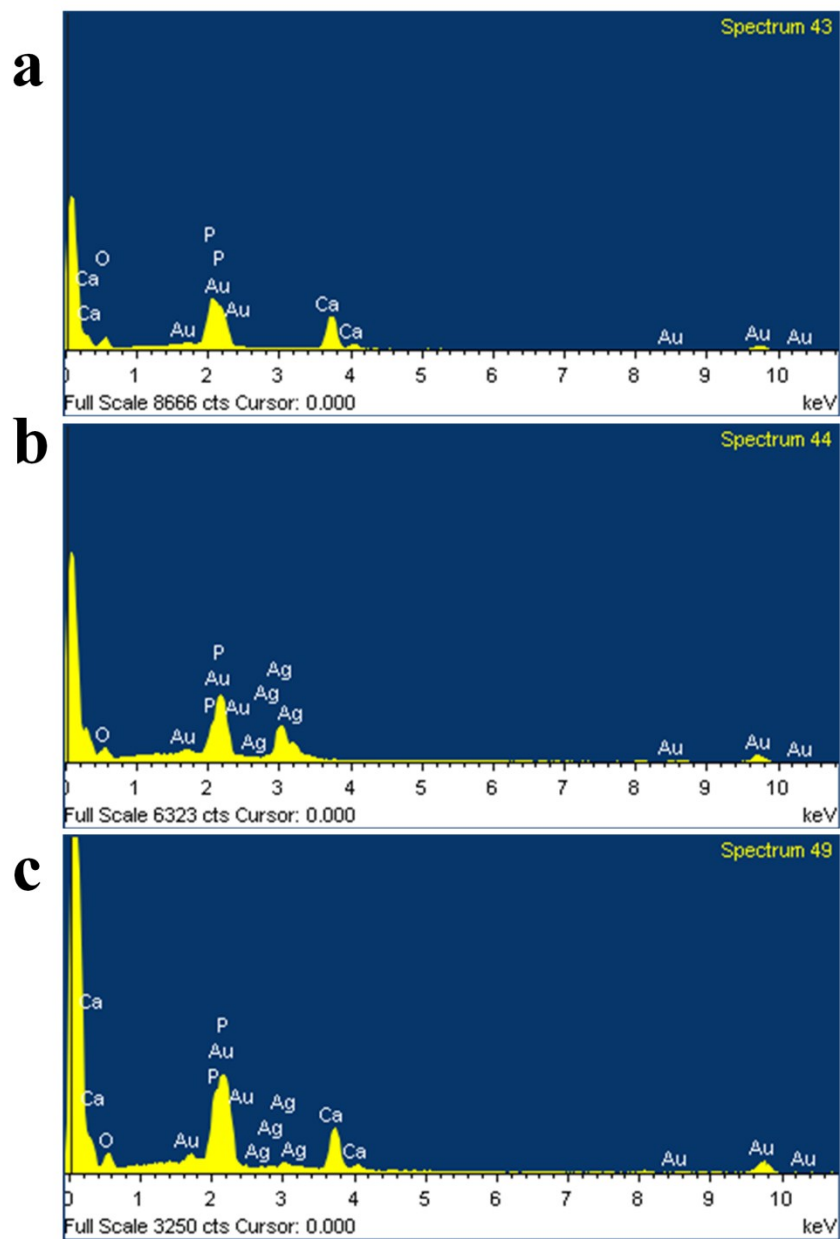


Figure S1. EDS patterns of the Ag-free sample (a), Ca-free sample (b) and GSCP-1 sample (c) synthesized using ATP as the phosphorus source by the rapid microwave-assisted solvothermal method at 120 °C for 10 min.

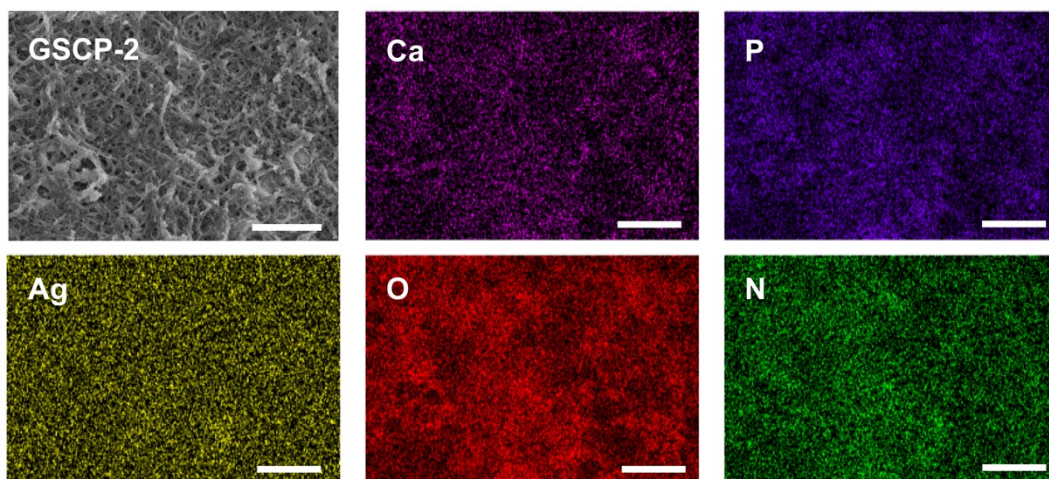


Figure S2. EDS elemental mappings of the GSCP-2 composite synthesized using ATP as the phosphorus source by the rapid microwave-assisted solvothermal method at 120 °C for 10 min. Scale bar is 500 nm.

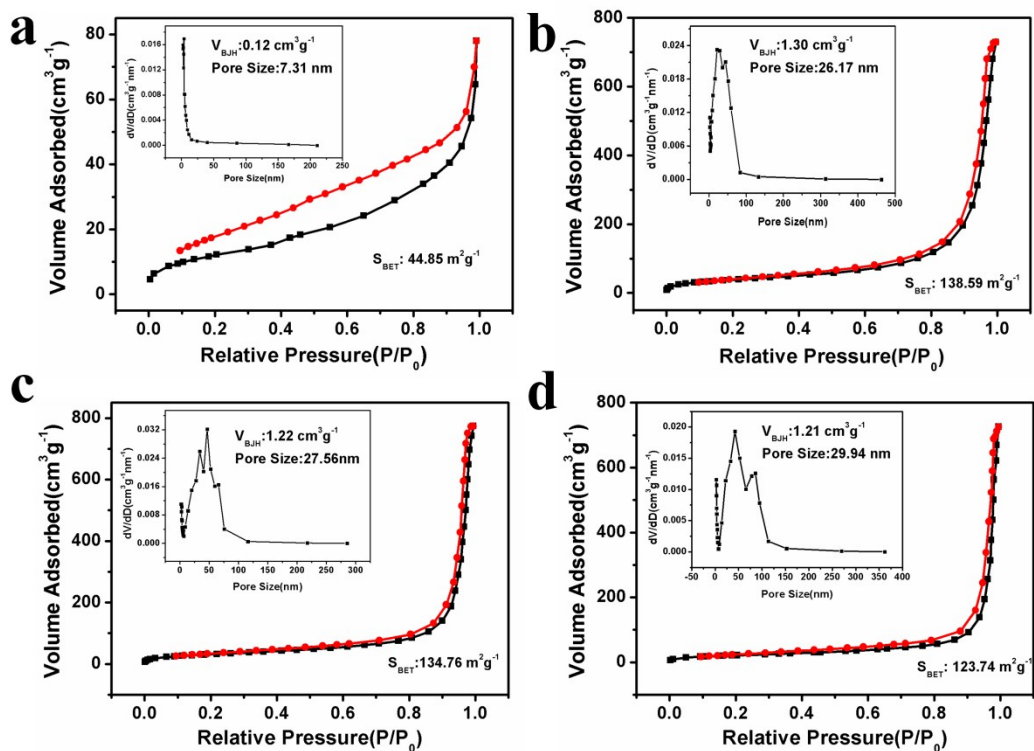


Figure S3. Nitrogen adsorption-desorption isotherm curves and pore size distribution curves (the insets) of the samples synthesized using ATP as the phosphorus source by the rapid microwave-assisted solvothermal method at 120 °C for 10 min. (a) Ag-free sample; (b) GSCP-1 sample; (c) GSCP-2 sample; (d) GSCP-3 sample.

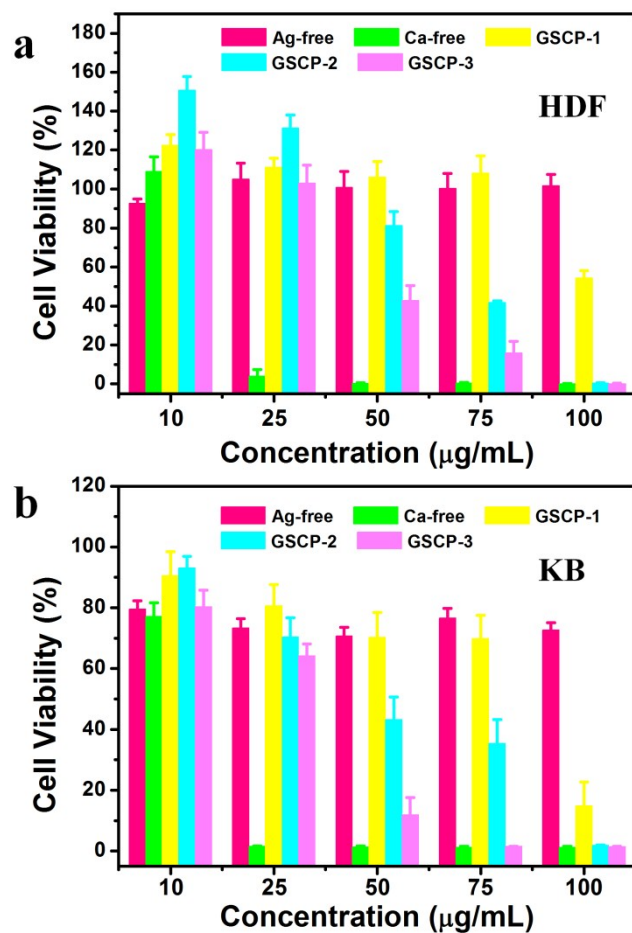


Figure S4. Cytotoxicity tests of the Ag-free sample, Ca-free sample and GSCP composite synthesized by the rapid microwave-assisted solvothermal method at 120 °C for 10 min using ATP as the phosphorus source. (a) HDF cells and (b) KB cells are used in the cytotoxicity tests.

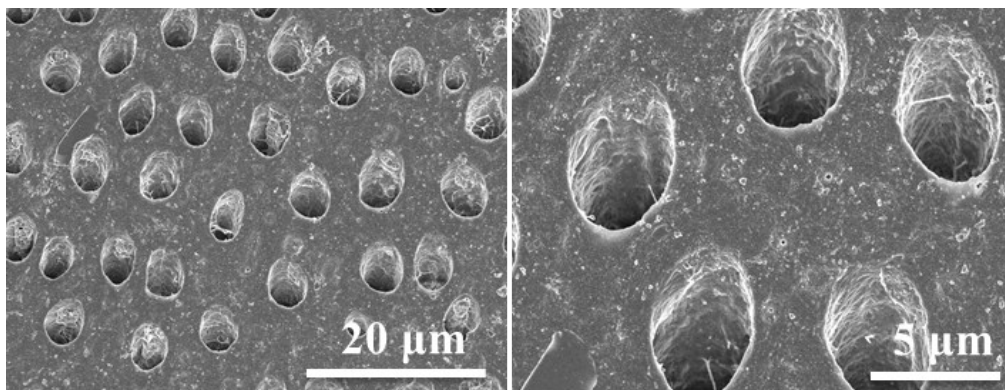


Figure S5. SEM micrographs of the cattle tooth dentine with exposed dentinal canaliculi.

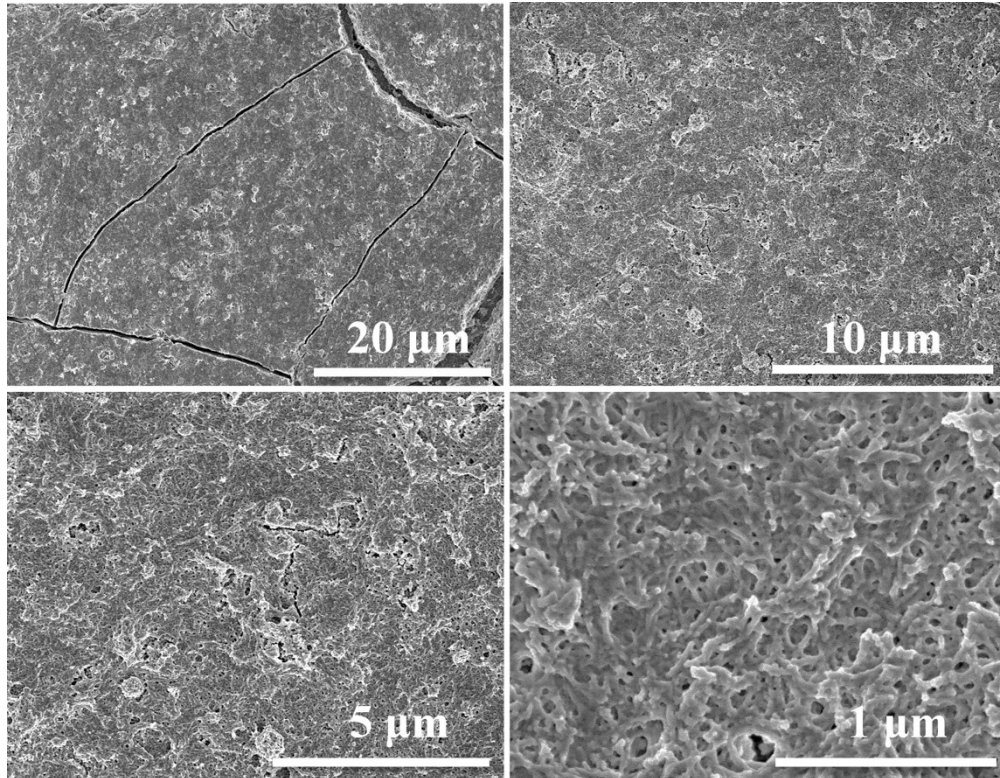


Figure S6. SEM micrographs of the cattle tooth dentine with exposed dentinal canaliculi with the GSCP-2 coating before being treated in the simulated saliva. The GSCP-2 composite displays a nanostructured meshwork constructed by one-dimensional fibers on the surface of the normal cattle tooth.

Table S1. The experimental parameters for the preparation of the samples using ATP as the phosphorus source by the rapid microwave-assisted solvothermal method at 120 °C for 10 min.

Sample	Name	Ca(NO ₃) ₂ ·4H ₂ O (g)	AgNO ₃ (g) ^[a]
1	Ca-free	—	0.020
2	Ag-free	0.354	—
3	—	0.354	0.002
4	—	0.354	0.004
5	—	0.354	0.006
6	GSCP-1	0.354	0.010
7	GSCP-2	0.354	0.020
8	GSCP-3	0.354	0.040

^[a] The amount of other reaction reagents is constant: ATP (0.330 g), urea (0.200 g), deionized water (15 mL), and ethylene glycol (15 mL).