

Synthesis, Coating and Drug-Release of Hydroxyapatite Nanoparticles Loaded with
Antibiotics

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Supplementary information

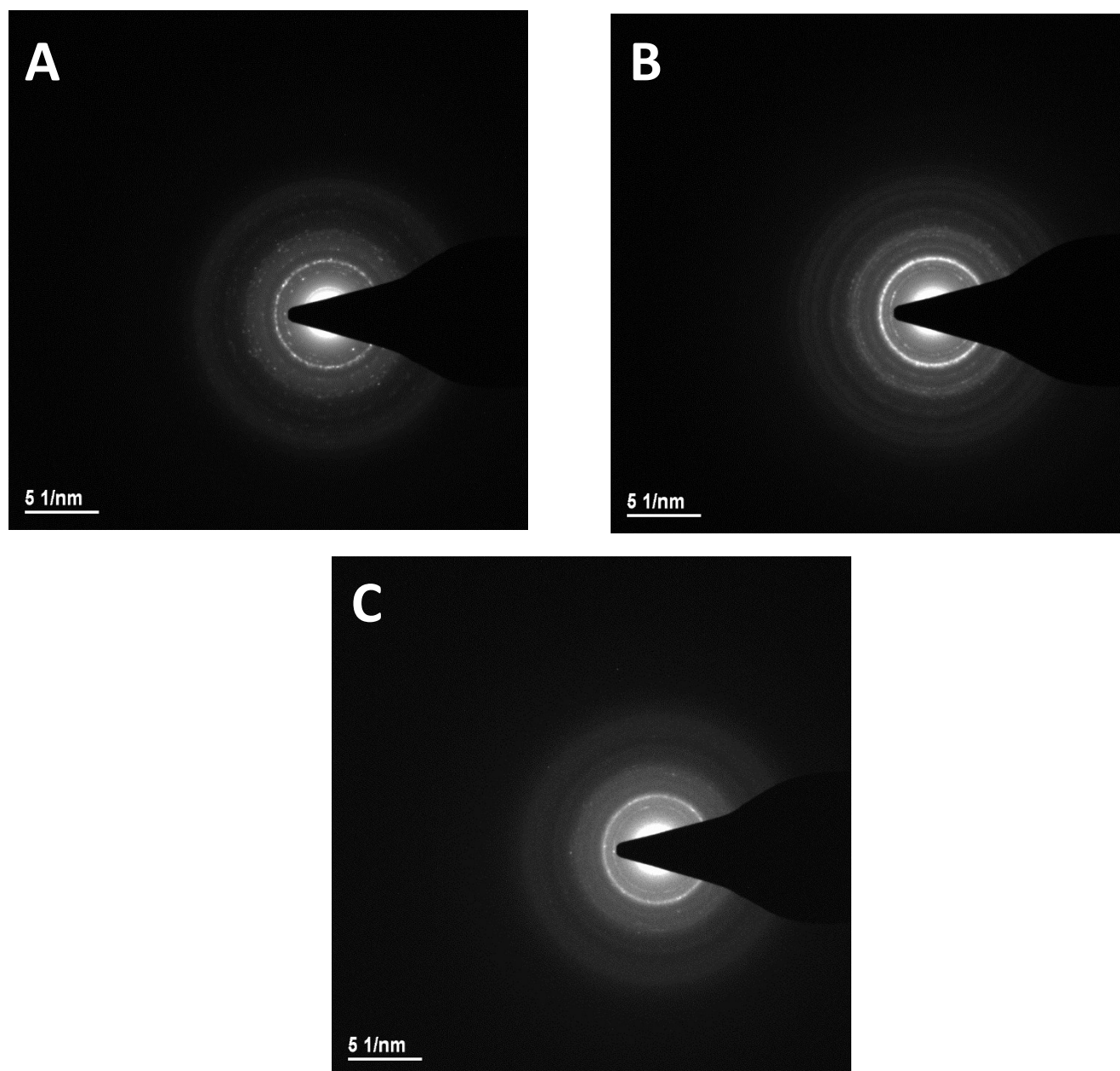


Figure 1S. SAED-TEM patterns of HAp (A), Gs-HAp (B), and Cip-HAp (C).

Element	Gs-HAp at %		Cip-HAp at %		HAp at %	
	EDS	XPS	EDS	XPS	EDS	XPS
Ca	17.5	17.7±0.3	22.4	15.2±0.8	19.1	17.4±0.8
P	11.4	10.7±0.4	14.6	11.2±0.5	12.5	10.6±0.1
O	64.2	60.3±0.2	51.1	52.4±0.3	68.3	52.8±0.9
C	6.0	8.9±1	10.8	17.3±0.9		19.0±1.0
N	BDT*	1.3±0.2	BDT*	1.6±0.2		
S	0.6					
F			0.6	0.41±0.1		

Table 1. EDS and XPS element analyses of Gs-HAp and Cip-HAp NP powders.

*BDT-below detection limit

Element	Gs-HAp at %	Cip-HAp at %
Ca	17.3±0.1	13.4±0.1
P	9.8±0.2	9.0±0.1
O	56.0±0.5	45.2±0.1
C	14.6±0.6	27.1±0.3
N	1.2±0.5	1.5±0.3
F	0	1.4±0.2

Table 2S. XPS analysis of Gs-HAp and Cip-HAp coatings on titanium.

Element	at %
Ca	13.5±1.4
P	8.3±0.8
O	53.0±1.0
C	22.5±2.5
N	1.8±0.5
F	0.5±0.1

Table 3S. XPS element analysis of drug-loaded coating deposited from HA-Gs and HA-Cip dispersions.

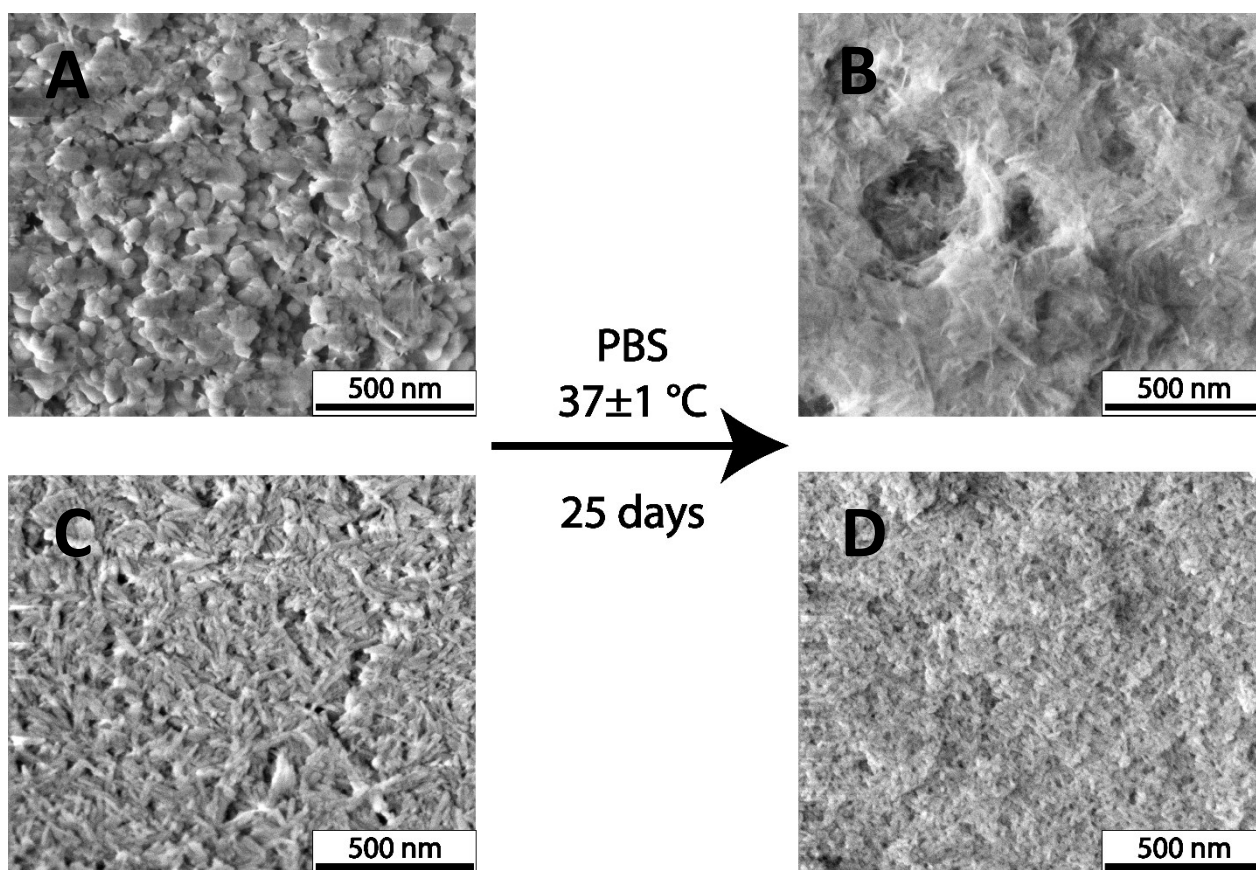


Figure 2S. SEM images of Gs HAp (A,B) and Cip-HAp (C,D) before and after 25 days immersion in PBS at 37±1 °C.

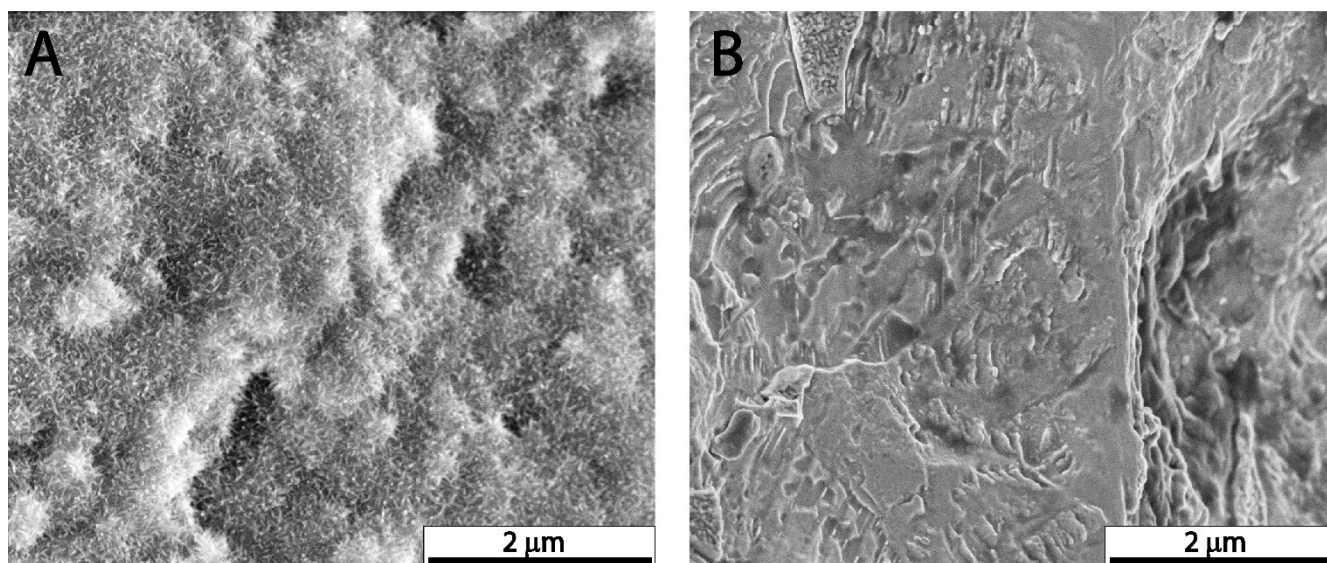


Figure 3S. SEM images of Gs-HAp coated (A) and uncoated (B) titanium implant after 4 weeks immersion in SBF solution at 37 ± 1 °C.

Element	% Atomic
Ca	16.19
P	10.52
O	69.39
Na	1.81
Cl	1.56
Mg	0.53

Table 1S. EDX element analysis of Gs-HAp coated implant after week immersion in SBF at 37 ± 1 °C.