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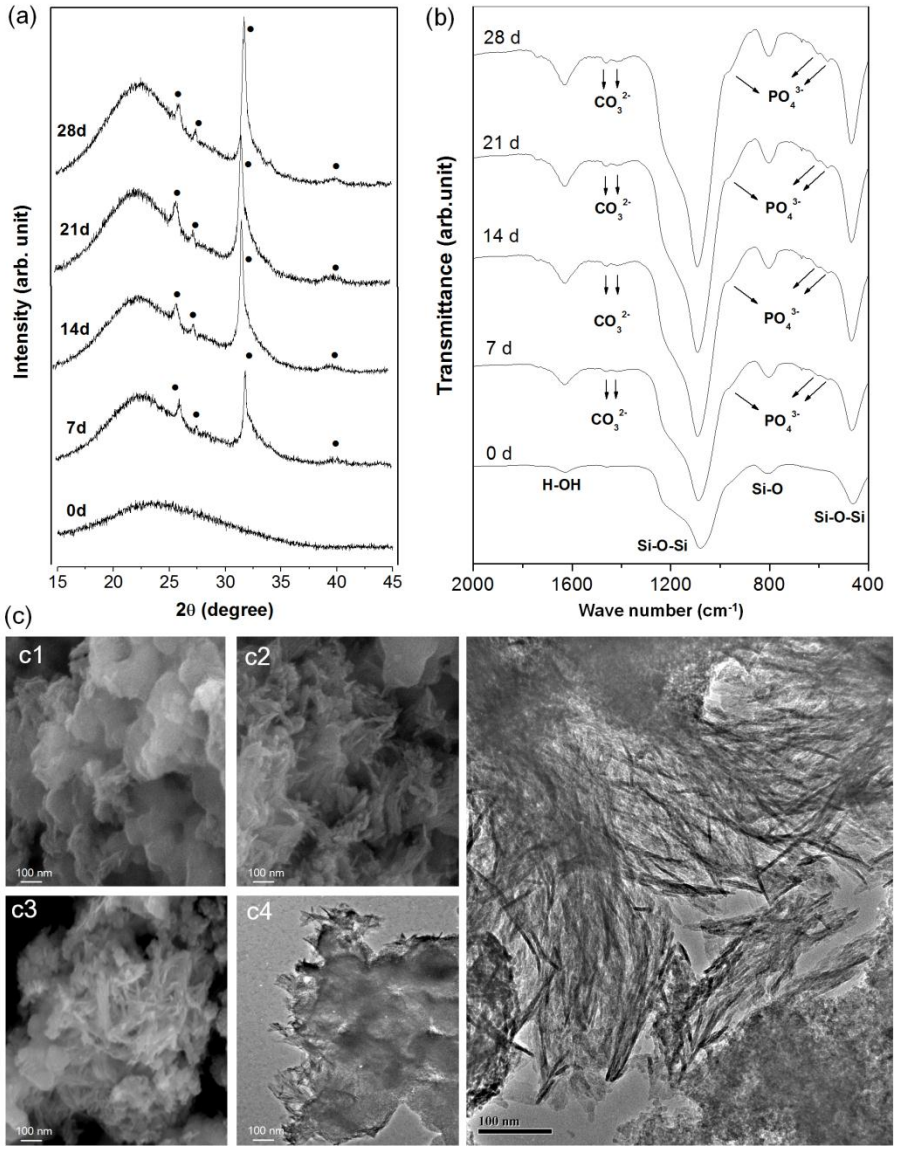

Supplementary 1. Assessments of hydroxyapatite-forming ability of the mesoporous BG nanoparticles (BGn2(A) shown representatively) after immersion in SBF for periods of up to 28 days and then observation of (a) phase change by XRD, (b) chemical bond structure by FT-IR, and (c) nano-morphology of the samples. Addition peaks typical of hydroxyapatite (with a main peak at $2\theta = 32^{o}$) were well developed during immersion (a) from XRD patterns. FT-IR spectra showed the formation of bands related to carbonated hydroxyapatite (PO_4 bands at 565 , 605 and 964 cm^{-1} and CO_3 bands at 1420 and 1458 cm^{-1}) after SBF immersion (b). SEM images revealed the precipitated nanocrystallites on the surface of nanoparticles as short as day 1 (c1), and the crystal formation was significant with

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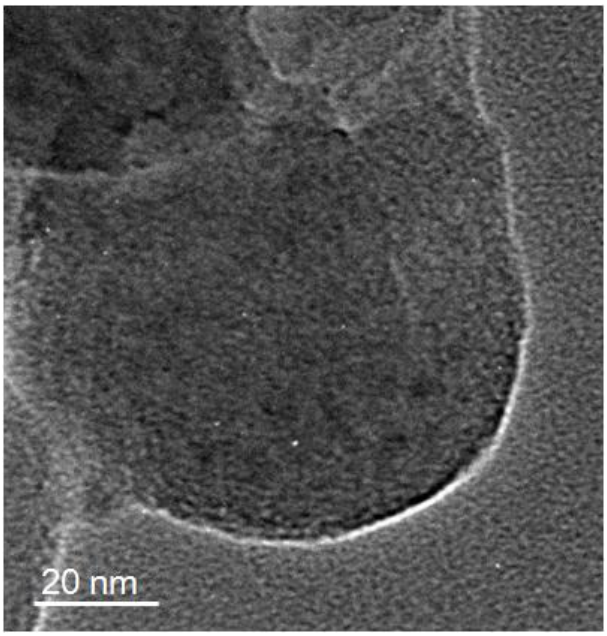
further incubation for 7 (c2) and 14 days (c3), totally changing the spherical morphology of the BGn2(A). TEM image supports the development of nanocrystallites on the surface of the nanoparticles at 1 (c4) and 7 days (c5).



Supplementary 2. TEM image of ampicillin-loaded BGn2. Comparing this image with BGn2 (shown in Fig. 1b3) clarified the mesopores developed in the structure significantly disappeared.

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Supplementary 3. Change in pore structure of the BG nanoparticles due to the ampicillin loading.

Parameter	BGn1(A)			BGn2(A)		
	before	after	%change	before	after	%change
Pore size (nm)	4.9	3.78	22.9	3.20	2.94	8.1
Specific surface area (m^2/g)	54.0	42.9	20.5	830	487	41.3
Specific pore volume (cm^3/g)	0.133	0.080	38.8	0.415	0.282	32.0