Mesoporous Strontium Doped Nano Sized Sulphate Hydroxyapatite as Novel Biomaterial for Bone Tissue Applications

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Fig S1. Raman shift of Sr-SHA series calcined at 700 °C for 2h
Fig S2. Thermogravimetric curves of Sr-SHA materials
Equations 1-4 (Eq 1-4S) 

The interconnectivity of the pores was calculated according to equations reported by 1,2. Initially, the net weight of the sample (Wnet) was obtained, and then the sample was saturated with distilled water (W sat) according to the ISO 10545-3 standard. Equations 1-4 (Eq 1-4S) were used to obtain the interconnectivity of the pores (pi).

\[
\Phi_a = \frac{W_{sat} - W_{net}}{\rho_a V} \tag{1}
\]

\[
\Phi_m = \frac{(W_{sat} - W_{net})100}{W_{net}} \tag{2}
\]

\[
\Phi_t = 1 - \frac{\rho}{\rho^*} \tag{3}
\]

\[
\pi_i = \frac{\Phi_a}{\Phi_t} \tag{4}
\]

Where \(\Phi_a\): open porosity, \(V\): volume of the porous body, \(\Phi_m\): mass porosity \(\rho\): the real density of the material, \(\rho^*\): the apparent density of the porous body, \(\rho_a\): the density of water, \(\Phi_t\): total porosity and \(\pi_i\): interconnectivity of the pores.

References
