

Supplementary Materials: Silica-Polymer Composites as the Novel Antibiotic Delivery Systems for Bone Tissue Infection

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Table S1. Surface area, pore diameter and pore volume of MCM-41 and MCM-41-CIP powders.

Sample	Surface Area (S_{BET}) (m^2/g)	Pore Diameter (nm)	Pore Volume (cm^3/g)
MCM-41	720	3.55	0.61
MCM-41-CIP	590	2.98	0.47

Note: calculated from the desorption branch of the nitrogen adsorption-desorption isotherm using the Barrett–Joyner–Halenda (BJH) method.

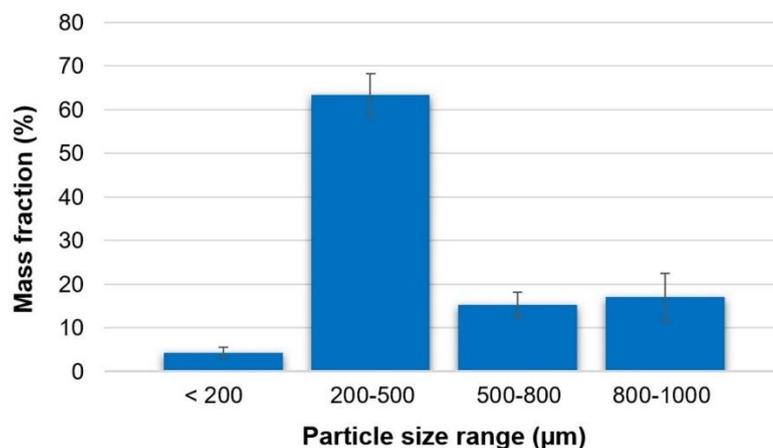


Figure S1. Particle size of MCM-41-CIP powder.

Table S2. The kinetic parameters of fitted experimental data for MCM-41-CIP sample and EC/CIP, EC/PDMS/CIP, EC/MCM-41-CIP and EC/PDMS/MCM-41-CIP composites.

Sample	Higuchi Model		Korsmeyer-Peppas Model	
	k_H	R^2	n	R^2
MCM-41-CIP ¹	7.44	0.882	0.42	0.911
EC/CIP ¹	27.6	0.952	0.50	0.954
EC/PDMS/CIP ¹	30.4	0.936	0.54	0.951
EC/MCM-41-CIP ²	7.39	0.992	0.17	0.979
EC/PDMS/MCM-41-CIP ³	2.68	0.993	0.26	0.866

R^2 —coefficient of determination, n —release exponent in Korsmeyer-Peppas model, k_H —Higuchi dissolution constant ($min^{-1/2}$; $day^{-1/2}$). ¹ calculated for 60% of cumulative amount of released CIP; ² calculated for first 11 days of release study (60% of cumulative amount of released CIP); ³ calculated for 30 days of release study (21% of cumulative amount of released CIP).