

Supporting information

Encapsulating insoluble antifungal drugs into oleic acid modified silica mesocomposites with enhanced fungicidal activity

Ping Zhu^{1#}, Liuzhu Zhou^{1#}, Yiyang Song¹, Ling Cai¹, Minghui Ji², Jun Wang³, Gang Ruan³,
Jin Chen^{1,4*}

¹Center for Global Health, School of Public Health, Nanjing Medical University, Nanjing 211166, Jiangsu, China

²School of Nursing, Nanjing Medical University, Nanjing 211166, China

³Collaborative Innovation Center of Chemistry for Life Sciences, Department of Biomedical Engineering, Institute of Materials Engineering, College of Engineering and Applied Sciences, Nanjing University, China

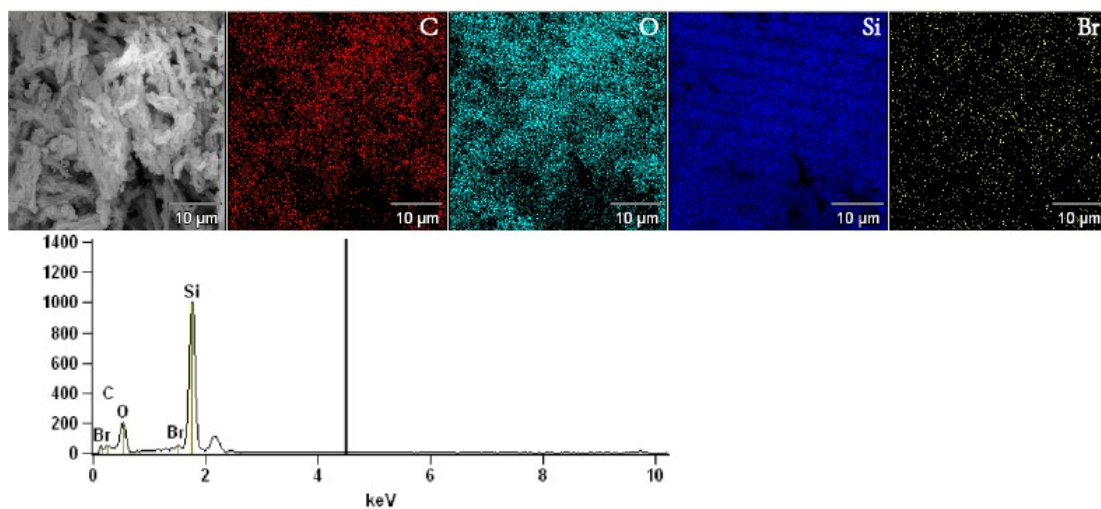
⁴The Key Laboratory of Modern Toxicology, Ministry of Education, School of Public Health, Nanjing Medical University, Nanjing 211166, Jiangsu, China

#Equal contribution.

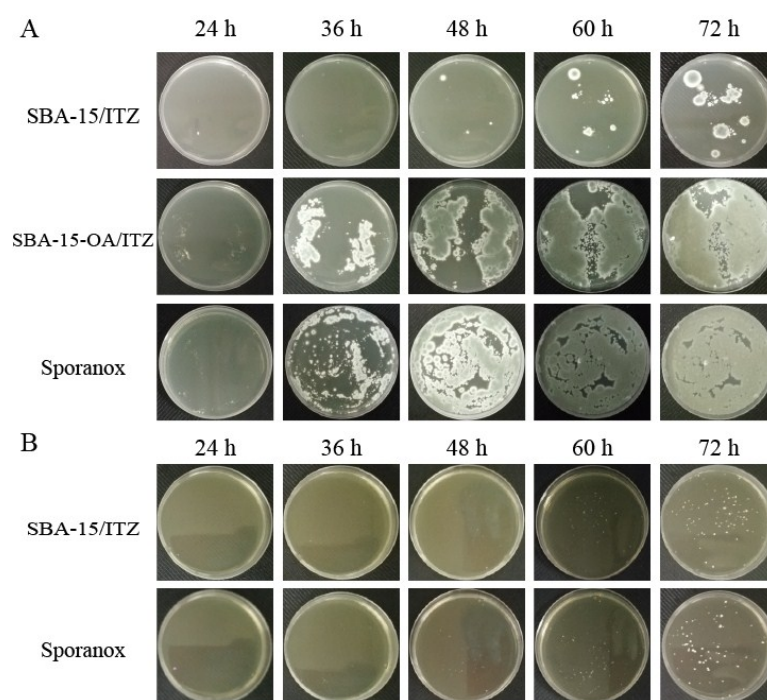
*Correspondence and request for materials should be addressed to J.C. (email: okachen30@gmail.com; jchen@njmu.edu.cn)

Cytotoxicity assay

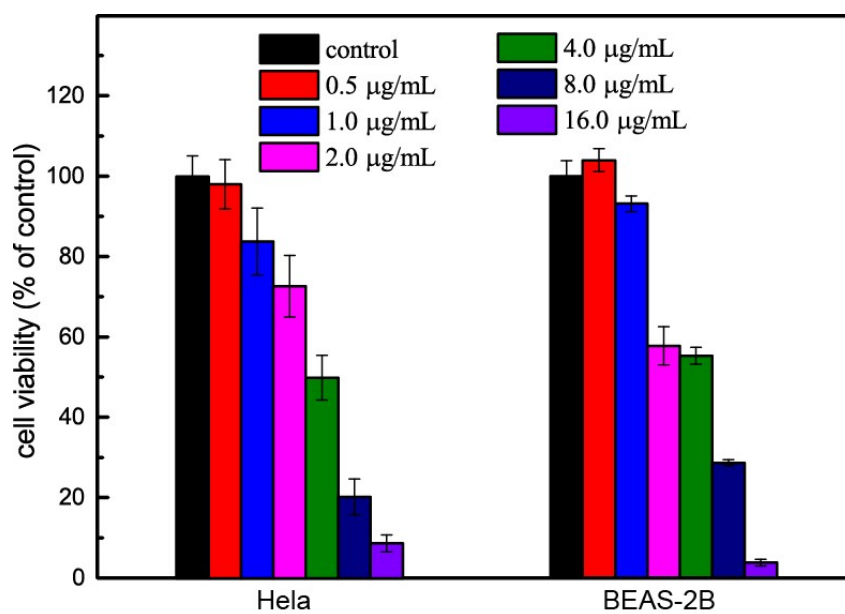
The influence of synthesized composites on the viability of human cells HeLa and BEAS-2B was measured using the cck-8 assay. The cells were seeded ($\sim 4.0 \times 10^3$ cells/well) in 96-well plates and incubated at 37 °C for 24 h. The dispersions of composites SBA-15-OA-CTAB/ITZ were added to the wells at different concentrations of 0.5, 1.0, 2.0, 4.0, 8.0 and 16.0 $\mu\text{g/mL}$ and incubated for another 24 h. Thereafter, the culture medium of each well was replaced with 200 μL of fresh medium containing 10 μL CCK-8 solutions and allowed to incubate for additional 2 hours. The absorbance of each well was measured employing a Multiscan Spectrum at the wavelength of 450 nm. The cell viability was calculated by the absorbance ratio of the treated groups to untreated.



S1. Elemental mapping images and EDS spectrum of SBA-15-OA-CTAB. Scale bar: 10 μm.



S2. Optical images of agar plates of the antifungal activities of SBA-15/ITZ, SBA-15-OA/ITZ and SporanoX at the same content of ITZ as SBA-15-OA-CTAB/ITZ against (A) *A. fumigatus* and (B) *C. albicans*.



S3. The cytotoxicity of SBA-15-OA-CTAB/ITZ composites on BEAS-2B and Hela cells, respectively. Error bars represented standard deviations (n=3).