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Authors: Shu-Dong Jiang, Gang Tang, Junmin Chen, Zheng-Qi Huang, Yuan Hu



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# Biobased polyelectrolyte multilayer-coated hollow mesoporous silica as a green flame retardant for epoxy resin

Shu-Dong Jiang<sup>a,b\*</sup>, Gang Tang<sup>c</sup>, Junmin Chen<sup>a,b\*</sup>, Zheng-Qi Huang<sup>c</sup> and Yuan Hu<sup>c</sup>

<sup>a)</sup> Department of Fire Protection Engineering, Faculty of Geosciences and Environmental Engineering, Southwest Jiaotong University, The Western Park of the Hi-Tech Industrial Development Zone, Chengdu, Sichuan, P.R. China.

<sup>b)</sup> State-Province Joint Engineering Laboratory in Spatial Information Technology for High-speed Railway Safety, Chengdu, Sichuan, P.R. China.

<sup>c)</sup> State Key Laboratory of Fire Science, University of Science and Technology of China, 96 Jinzhai Road, Hefei, Anhui 230026, P. R. China.

\*Corresponding authors : Dr. Shu-Dong Jiang and A.P. Junmin Chen

Email: shudj@mail.ustc.edu.cn ([Shu-Dong Jiang](mailto:shudj@mail.ustc.edu.cn))

## Highlights

- A green flame retardant (HM-SiO<sub>2</sub>@CS@PCL) was successfully synthesized through layer-by-layer assembly.
- The integrated effect of HM-SiO<sub>2</sub>@CS@PCL endows the epoxy resin composites with remarkable reduction in flammability and smoke production.
- The incorporation of HM-SiO<sub>2</sub>@CS@PCL can sustainably recycle the epoxy resin into high value-added hollow carbon spheres during combustion.

## Abstract

Here, we describe a multifunctional biobased polyelectrolyte multilayer-coated hollow mesoporous silica (HM-SiO<sub>2</sub>@CS@PCL) as a green flame retardant through layer-by-layer

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