

Abstract Submitted
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Dual surface-functionalized Janus nanocomposites for targeted stimulus responsive drug delivery. FENG WANG, University of Houston, YI-LONG WANG, The Institute for Biomedical Engineering and Nano Science, Tongji University, China, GIOVANNI PAULETTI, James L. Winkle College of Pharmacy, University of Cincinnati, DONGLU SHI, The Materials Science and Engineering Program, University of Cincinnati — A novel superparamagnetic Janus nanocomposite (SJNC) of polystyrene/Fe₃O₄@SiO₂ was designed and developed for the first time using a miniemulsion method. Both surfaces were readily functionalized for bio-medical application. Folic acid (FA) and doxorubicin (DOX) were conjugated stepwise to the surfaces. It was found that SJNCs achieved cell-targeted drug delivery in a pH-responsive manner.

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