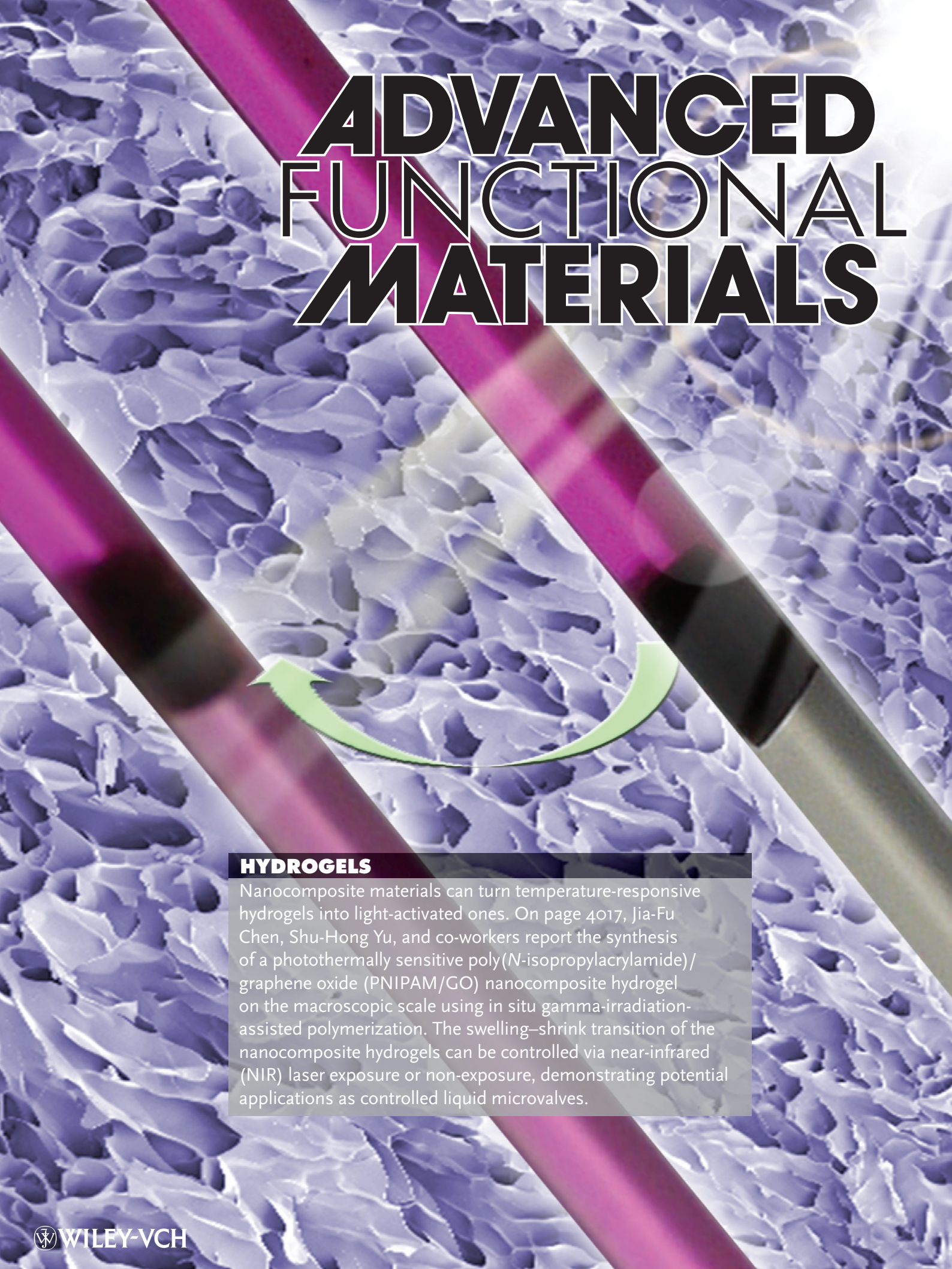


ADVANCED FUNCTIONAL MATERIALS

The background of the entire page is a high-magnification scanning electron micrograph (SEM) of a porous, interconnected network of fibers, resembling a sponge or a hydrogel structure. The color is a deep purple. A large, thick, green curved arrow is superimposed on the image, pointing from the bottom left towards the top right, indicating a process or transition.

HYDROGELS

Nanocomposite materials can turn temperature-responsive hydrogels into light-activated ones. On page 4017, Jia-Fu Chen, Shu-Hong Yu, and co-workers report the synthesis of a photothermally sensitive poly(*N*-isopropylacrylamide)/graphene oxide (PNIPAM/GO) nanocomposite hydrogel on the macroscopic scale using in situ gamma-irradiation-assisted polymerization. The swelling–shrink transition of the nanocomposite hydrogels can be controlled via near-infrared (NIR) laser exposure or non-exposure, demonstrating potential applications as controlled liquid microvalves.