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Physico chemistry of solids, thin films, biotechnologies
Applications for micro & nano- technologies, energy, health ...

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New IMBM paper by Xi Qiu Liu

Published on October 23, 2015

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Communique September 21, 2015

Congratulations Xi Qiu Liu! Her new review on LbL assemblies for cancer treatment and diagnosis is published in Adv. Mat.!

adma201502660-gra-0001-m.png

[Here](#) is [Xi Qiu](#)'s paper and here is the abstract:

The layer-by-layer (LbL) technique was introduced in the early 1990s. Since then, it has undergone a series of technological developments, making it possible to engineer various theranostic platforms, such as films and capsules, with precise control at the nanometer and micrometer scales. Recent progress in the applications of LbL assemblies in the field of cancer therapy, diagnosis, and fundamental biological study

are highlighted here. The potential of LbL-based systems as drug carriers is discussed, especially with regard to the engineering of innovative stimuli-responsive systems, and their advantageous multifunctionality in the development of new therapeutic tools. Then, the diagnostic functions of LbL assemblies are illustrated for detection and capture of rare cancer cells. Finally, LbL-mimicking extracellular environments demonstrate the emerging potential for the study of cancer cell behavior in vitro. The advantages of LbL systems, important challenges that need to be overcome, and future perspectives in clinical practice are then highlighted.

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Written by Thomas Boudou

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