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**Modular and adaptive dendrimer nanosystems for biomedical applications**

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The application of nanotechnology is widely expected to bring breakthrough in medicine for disease treatment and diagnosis. Dendrimers are ideal materials for elaborating nanomedicine by virtue of their well-defined structure, multivalent cooperativity and nanosize per se. We will present our recent studies on modular and adaptive dendrimer nanosystems, constructed via self-assembling of amphiphilic dendrimers,<sup>1</sup> for the delivery of imaging agents,<sup>2</sup> anticancer drugs<sup>3</sup> and nucleic acid therapeutics<sup>4</sup> in cancer detection and treatment. The self-assembling approach to create supramolecular dendrimer is completely novel in concept yet easy to implement in practice, offering a fresh perspective for exploiting the advantageous features of supramolecular dendrimers in biomedical applications.

**Key words:** nanobiotechnology, nanomedicine, drug delivery, gene therapy, dendrimer

**Biography :**

Dr. Ling Peng carried out her PhD with Prof. Albert Eschenmoser at Swiss Federal Institute of Technology in Zurich, Switzerland, and her postdoctoral research with Prof. Maurice Goeldner at University of Strasbourg in France. Dr. Ling Peng is currently a CNRS research director in France, and working actively at the interface of chemistry and biology. In particular, she has established bioinspired and self-assembling supramolecular dendrimers for drug delivery in cancer treatment and imaging. She was awarded with the Prize of Dr & Mme Henri Labbé of the French Academy of Sciences, and granted as Distinguished Member of the French Chemical Society.

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