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Novel Synthetic and Natural Materials for Fighting the Global Challenge of Antimicrobial Resistance

Guest Editor:

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Message from the Guest Editor

As the nanomedicines market is set to reach $400 billion by 2019, bionanomaterials could represent promising leads for developing new strategies to prevent, treat and eradicate microbial infections produced by resistant pathogens. However, there is a huge discrepancy between the number of studies reporting the design of novel antimicrobial bio-nanomaterials and of those using in vivo models or including cytotoxicity assays for validating the respective bionanomaterials.

This Special Issue is to present the current advances in developing novel antimicrobial bionanomaterials, but also the challenges for translating them into clinical practice. Original research and review papers dealing with the physicochemical properties conditioning the antimicrobial activity of bionanomaterials, critical design criteria for the safe application of bionanomaterials and for achieving successful nanocarriers preparation, in vivo evaluation of the pharmacokinetic behavior of antimicrobial bionanomaterial and analysis of their organ- and tissue-level distribution, and nanomaterials' modification for increasing their efficacy and biocompatibility are welcome.

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Message from the Editor-in-Chief

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