

Designer porous nanomaterials for drug and gene delivery

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Nanomaterials possess unique physical, chemical and biological properties due to the nanosize effects and offer various advantages for biomedical applications such as drug delivery and tissue engineering. Porous nanomaterials are of special interested due to their good biocompatibility, high stability, rigid framework, well defined pore structure, easily controllable morphology and tuneable surface chemistry. Recently, the development of porous with large pores enable the loading and delivery of large therapeutic molecules including proteins and genes. In this presentation I will introduce our works and the recent progress using porous nanomaterials for drug and gene delivery for tissue engineering and antibacterial applications.

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³ Li, HM. et al. *Advanced Materials*, **2019**, 31 (46), 1904535

⁴ Xu, C. et al. *ACS Applied Nano Materials*, **2020**, 3 (2), 1457-1467

⁵ Lei, C. et al. *Nano Research*, **2021**, 14, 770-777