

Abstract of the PhD thesis of Mai D. L. Vuong

Drug delivery is essential to administer pharmaceuticals to the patients with the most suitable biological activity, duration, and location. Controlled drug delivery relies on a vehicle, or carrier, to carry and transport the active molecules intact to the target sites and then release them in a predictable duration. Among the reported drug delivery systems (DDSs), nanoparticles, object with size between 1 and 1000 nm, are currently the mainstream candidate. However, the question about degradation and reactions of nanomaterials in biological media are hampering their clinical translation. Here, we investigate the degradation process in biological-mimicking media of two types of nanocarriers made of polymer and metal-organic framework. To this end, we also develop analytical methods based on nuclear magnetic resonance (NMR) spectroscopy techniques.

The jury will be composed of:

- Bruno Alonso, Directeur de recherche, Institute Charles Gerhardt Montpellier (Rapporteur)
- Guillaume Bastiat, Maître de conférences, Université d'Angers (Rapporteur)
- Nicolas Giraud, Professeur, Université de Paris
- Caroline Mellot-Draznieks, Directeur de recherche, Collège de France
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