

Tuning functional properties of lanthanide(III)-based metallacrowns

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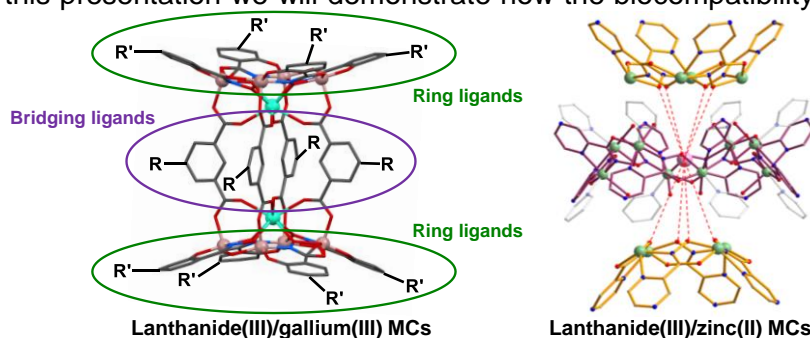
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Metallacrowns (MCs) belong to a class of highly organized metal complexes analogous to organic crown ethers. Several families of lanthanide(II)/zinc(II) and lanthanide(III)/gallium(III) MCs have been created by us.^{1,2,3,4} These metallacrowns exhibit unique luminescent properties and are able to efficiently sensitize the characteristic emission of visible, near-infrared and dual-emitting lanthanide(III) ions.⁵ They have shown unprecedented perspectives for applications as probes in near-infrared optical imaging,^{6,7} as nanothermometers⁸ or as materials for white-light emission.⁹ In this presentation we will demonstrate how the biocompatibility and the photophysical properties of



lanthanide(III)-based metallacrowns can be finely tuned by the variation of the nature or by the functionalization of the ring- or the bridging-ligands.

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