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Rational design of tetranuclear d-f complexes with ditopic Janus-type aromatic ligands

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Ditopic ligands have been recently attracted much attention since they open novel possibilities and perspective in coordination chemistry and material science [1]. Ditopic ligands containing two separate bidentate and tridentate binding units are well-suited because of their unique physicochemical properties [2]. In this study, new synthetic strategies have been exploited for the preparation of tetra nuclear complexes containing d and f block metal ions (Figure 1). The first synthetic step consists of the preparation of preorganized ditopic Janus-type ligands [3] followed by the coordination of transition metal ion with the bidentate site. Further reaction of the complex with labile nine-coordinated Ln(III) results in the formation of the targeted tetranuclear d-f complexes (Figure 1). In this contribution, chemical requirements and design favoring the formation of the tetranuclear d-f complex will be presented.

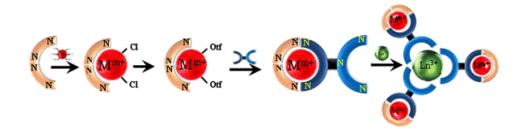


Figure1. Synthesis of tetra nuclear d-f complexes

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