

Click-chemistry as a convenient way for binding of metalloblocks: design principles for the construction of *multi-metallic* systems containing Ln(III)

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In recent years, the Cu(I)-catalyzed azide-alkyne cycloaddition (CuAAC) has received considerable attention as a way of preparing substituted-1,2,3-triazoles for using in coordination chemistry. These molecules can act as N-donor ligands and possibility of generating polydentate triazole ligands is very attractive, in particular, they can be exploited to coordinate high coordination number ions such as lanthanides, which possess fascinating photophysical properties.¹

As a sinton for the click reaction, a wide range of compounds may be used, among which there are both organic molecules and various inorganic compounds having an alkyne or azide fragment.^{2,3} In this regard, it becomes possible to create organo-inorganic hybrids carrying additional coordination vacancies for the metal ion.

Herein, we report on the design and synthesis of bimetallic Ir(III)/Ln(III) complexes (Figure 1) and heterometallic hybrids based on polyoxometalate (POM) and Ln(III) complexes.

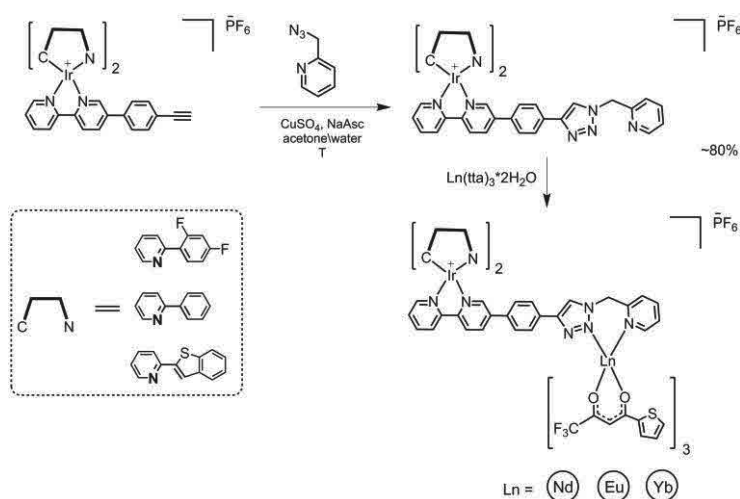


Figure 1. The design of the Ir(III)/Ln(III) dyads

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