**RESULTS AND DISCUSSION:**

The transmetallation was studied through the evolution of the paramagnetic complex and of water protons (H2O) in a solution containing 2.5 mM of the gadolinium complex.

**MATERIALS AND METHODS:**

In the presence of Zn ions, the transmetallation of several gadolinium complexes proceeds at a slow rate.

**INTRODUCTION:**

Proton NMR study of the transmetallation of gadolinium complexes by Zn(II).
REFERENCES:

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The observation of DTPA derivatives and their complexes with metal ions is interesting since it is possible to observe the formation of complexes with various metal ions. These complexes exhibit a variety of characteristics, including a high degree of transmetalation, which is important for their potential applications in various fields. The transmetalation process is dependent on several factors, such as the chelate ligands and the metal ions involved. The complexes formed between DTPA derivatives and metal ions can be used in various applications, such as in the production of new materials, in analytical chemistry, and in other fields.

**CONCLUSIONS:**

The results obtained in this study provide new insights into the mechanism of transmetalation and the formation of metal complexes with DTPA derivatives. The transmetalation process is influenced by several factors, including the type of metal ion, the ligand structure, and the reaction conditions. The formation of complexes with these derivatives is an important area of research with potential applications in various fields.

**Figures:**

1. Figure VI: Graph showing the concentration of DTPA derivatives as a function of time (Figure VI).
2. Figure V: Graph showing the concentration of metal ions as a function of time (Figure V).
3. Figure IV: Graph showing the concentration of metal complexes as a function of time (Figure IV).

The results indicate that the transmetalation process is dependent on the ligand structure and the metal ion involved. The formation of complexes with DTPA derivatives is an important area of research with potential applications in various fields.