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**BINDING PROPERTIES OF THIALALIX[2]THIANTRENES**

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One of the nagging questions which occupy specialists and continue to worry the public is how to get rid of annoying poisons such as radioactive waste? The ideal would be to disable them by enclosing them in a sort of chemical trap for sorting and manipulation. We are therefore interested in studying the properties of extractants and complexing ligand thialalixthianthrene **1** and its derivative disulfoxide **5** towards the alkali, alkaline earth, some transition metals, heavy metals and lanthanide metals.

The ligand **1** complexes transition metals, heavy metals and lanthanides cations. The results show the formation of mononuclear species for both ligands **1** and **5** with all cations studied. It is noteworthy that the oxidation of sulfur atoms of ligand **1** reverses these complexing properties and decreases slightly stable complexes, indicating the contribution of oxygen to the coordination of alkali cations. Among the most important results to be learned from the study of the complexation are those obtained with the ligand **1** and particularly with Hg<sup>2+</sup>.

The study of conductimetric titration has confirmed mainly stoichiometries of complexes formed in solution with ligands determined by UV spectrophotometry.