

## Synthesis of new organometallic compounds and their radioprotective activity evaluation

Damien CRESSIER<sup>a</sup>, Ticuta NEGREANU-PIRJOL<sup>b</sup>, Christine AMOURETTE<sup>c</sup>,  
Claude LION<sup>d</sup> and Ghassoub RIMA<sup>\*a</sup>

<sup>a\*</sup> *Laboratoire d'Hétérochimie Fondamentale et Appliquée, UMR-5069 CNRS/UPS, Université Paul Sabatier,  
118, route de Narbonne, 31062 Toulouse Cedex 9, France*

<sup>b\*</sup> *Ovidius University Constanta, Faculty of Physics, Chemistry, Electronics and Oil Technology Chemistry  
Department, 124, Mamaia Blvd RO-900527 Constanta,*

<sup>c</sup> *Division de Radiobiologie et Radioprotection, Centre de Recherches du Service de Santé des Armées, 24  
Avenue des Maquis du Grésivaudan, 38702 La Tronche Cedex,*

<sup>d</sup> *Institut de Topologie et De Dynamique du Système de l'Université Paris-7, 1, rue Guy de la Brosse, 75005  
Paris, France*

**Abstract** Further to our work concerning organometallic compounds active in chemical radioprotection, we report the synthesis and pharmacological study (radioprotective activity, toxicity) of new germathiazolidines and germadithioacetals derived from cysteamine, methylcysteamine and N-substituted cysteamine. A germylated oxide and sulfide with methylcysteamine hydrochloride as ligand were also investigated.

A notable decrease in the toxicity and a fairly large increase in the radioprotective activity of these new organogermylated compounds were observed compared with cysteamine, methylcysteamine and N-substituted cysteamine.

**Keywords:** germathiazolidines, germadithioacetals, germylared sulfide, toxicity, radioprotective activity.