MODELLO **B** — versione  del modello A

Elisabetta Gabano

Curriculum vitae

BIO AND EDUCATION

1997: Diploma degree (Liceo Scientifico, Casale Monferrato, Alessandria, Italy)

2002: Laurea degree in Chemistry cum laude from the Università del Piemonte Orientale"Amedeo Avogadro", under the guidance of prof. D. Osella, Dipartimento di Scienze e Tecnologie Avanzate (UPO) and prof. G. Cravotto, Dipartimento di Scienza e Tecnologia del Farmaco, Università di Torino.

2003: Qualification to practice the profession of Chemist, University of Pavia.

2005: PhD degree in Chemical Sciences, Dipartimento di Scienze dell'Ambiente e della Vita, Università del Piemonte Orientale; advisor: Prof. D. Osella.

UNIVERSITY CAREER

2021-to date	Associate Professor (General and Inorganic Chemistry), Università del Piemonte Orientale
2010-2021	Assistant Professor (General and Inorganic Chemistry), Università del Piemonte Orientale
2005-2010	Research fellow, Università del Piemonte Orientale

UNIVERSITY POSITIONS

2025-oggi	*Responsabile qualità del Dipartimento per la Formazione*, Dip. per lo Sviluppo Sostenibile e la Transizione Ecologica, Università del Piemonte Orientale
2022-oggi	Member of *Commissione orientamento*, Dip. per lo Sviluppo Sostenibile e la Transizione Ecologica, Università del Piemonte Orientale
2020-2024	Member of the Quality Assurance group of the Master of Science in Chemical Sciences, Dipartimento di Scienze e Innovazione Tecnologica, Università del Piemonte Orientale
2020-2024	Member of the Didactic Commission of the Degree Course in Chemistry, Dipartimento di Scienze e Innovazione Tecnologica, Università del Piemonte Orientale
2015-2020	Member of the students-professors joint Commission, Dipartimento di Scienze e Innovazione Tecnologica, Università del Piemonte Orientale

MODELLO **B** — versione  del modello A

SCIENTIFIC POSITIONS

2003- to date	Member of the *Società Chimica Italiana*
2002-2023	Member of the *Consorzio Interuniversitario di Ricerca in Chimica dei Metalli nei Sistemi Biologici* (CIRCMSB)

MAIN FIELDS OF INTEREST

1. Coordination compounds
2. Synthesis and characterisation of Pt(IV) complexes as potential antitumor prodrugs
3. Quantitative structure-activity (QSAR) and structure-property (QSPR) study of Pt(IV) complexes
4. Drug targeting and delivery strategies for Pt(II) and Pt(IV) complexes
5. Recovery of metals from Waste Electrical and Electronic Equipment – WEEE
6. Teaching of Chemistry

CURRENT ISSUES OF RESEARCH

1. *Drug targeting and delivery* of platinum complexes

In order to improve the selectivity of the platinum complexes employed as antitumor drugs, biologically active or macromolecular vectors are used to selectively reach the tumor tissue and to delivery and accumulate the drug there. For this purpose, suitably designed platinum-vectors conjugates are synthesized, characterized and biochemically/biologically tested.

2. Bifunctional platinum complexes

When two drugs contemporarily administered are effective at similar doses, they can be substituted by a single “bifunctional” molecule to increase their activity. Therefore, such a molecule, which is constituted by a Pt(II) or Pt(IV) complex (as potential antitumor drug or prodrug) with one or two molecules of a second adjuvant drug linked to it, is synthesised, characterised and biochemically/biologically tested.

3. Properties of Pt(IV) complexes

The Pt(IV) complexes are considered antitumor prodrugs, that are reduced to the corresponding active Pt(II) metabolites in the hypoxic tumor environment. The choice of the coordinated ligands affects the chemico-physical properties and the antiproliferative activity of the resulting complexes. Therefore, upon suitable design of the ligands, different complexes are synthesised and characterised and their properties such as lipophilicity, reduction kinetics, reduction potential, etc. are studied.

4. **Recovery of metals from Waste Electrical and Electronic Equipment – WEEE**

Of the 118 elements reported in the Periodic Table, about 40 will pose moderate to serious problems concerning their future availability. Most of these critical materials are transition elements or rare earth metals, and many are essential parts of electronic equipment, catalysts, fuel and photovoltaic cells, integrated circuits, batteries, and so on. Furthermore, extraction processes have environmental consequences and mining also has large social impact and drives inequality. Therefore, facing the limited availability of these elements at present, or in the future, requires sustainable management, also including the search for alternatives, reuse and recycle for a green inorganic chemistry.

5. **Teaching of Chemistry**

Experiments and educational paths to teach chemistry in an engaging and innovative way.

TOP FIVE PAPERS

1. E. Monti, M. Gariboldi, A. Maiocchi, E. Marengo, C. Cassino, E. Gabano, D. Osella, Cytotoxicity of cis-Platinum(II) Conjugate Models. The Effect of Chelating Arms and Leaving Groups on Cytotoxicity: A Quantitative Structure−Activity Relationship Approach, J. Med. Chem., 48 (2005) 857-866.
2. P. Gramatica, E. Papa, M. Luini, E. Monti, M. B. Gariboldi, M. Ravera, E. Gabano, L. Gaviglio, D. Osella, Antiproliferative Pt(IV) complexes: synthesis, biological activity, and quantitative structure-activity relationship modeling, J. Biol. Inorg. Chem., 15 (2010) 1157–1169.
3. M. Ravera, E. Gabano, G. Pelosi, F. Fregonese, S. Tinello, D. Osella, A New Entry to Asymmetric Platinum(IV) Complexes via Oxidative Chlorination, Inorg. Chem. 53 (2014) 9326−9335.
4. E. Gabano, M. Ravera, I. Zanellato, S. Tinello, A. Gallina, B. Rangone, V. Gandin, C. Marzano, M.G. Bottone, D. Osella, An unsymmetric cisplatin-based Pt(IV) derivative containing 2-(2-propynyl)octanoate: a very efficient multi-action antitumor prodrug candidate, Dalton Trans., 46 (2017) 14174-14185.
5. M.P. Botta, B. Attinà, M. Ravera, E. Gabano, Becoming Aware of Endangered and Critical Elements: Spent Batteries as Metal Mines, J. Chem. Educ. 102 (2025) 2103–2111.

AWARDS

1. The youngest researcher with the best impact factor in scientific field – academic year 2011-12, Università del Piemonte Orientale, 2013