

CURRICULUM VITAE

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Born: Barcelona, Spain, September 14, 1950
Nationality: Spanish citizen

EDUCATION

Graduate in Chemical Sciences. University of Granada 1973
Title of thesis: Use of complex 1,2-diaminoantraquinona-Cu(II) complex as indirect metallochromic indicator in Ca(II) and Sr(II) complexometric titrations.
Ph.D., University of Granada
Title of dissertation: Complexing ability and analytical applications of heterocyclic azomethines 2-(phenyliminomethyl)pyridine and 2-(o-hydroxyphenyliminomethyl) pyridine

ACADEMIC EMPLOYMENT

University of Granada	Assistant Professor, 1973-1974
	Assistant Professor –Scholar, 1974-1976
	Acting Associate Professor, 1976-1979
	Full Associate Professor, 1979-1982
	Full Professor, 1982-present

TEACHING

General Chemistry for Chemists, General Chemistry for Biologists, General Analytical Chemistry, Advanced Analytical Chemistry, Instrumental Analysis, Water Analysis, Vegetable Fats Analytical Techniques; Tutorial "Liquid Chromatography", Tutorial "Chemical Sensors", Tutorial "Kinetic Analytical Methods", Tutorial: "Fireworks"; Tutorial "Safety in Chemical Labs", Tutorial "Chemical Wastes", Tutorial "Chemical Reactivity and Casualty", Analytical Chemistry laboratories; General Chemistry laboratories.

RESEARCH

1. New spectrophotometric analytical reagents
2. Solid phase spectrophotometry assays
3. Solid phase luminescent assays
4. Spanish contribution to platinum discovery in eighteen century
5. Identification of materials in artistic media
6. Optical disposable sensors
7. Portable instrumentation for gases analysis
8. Flow-through sensors in food analysis
9. Analysis of veterinary drugs by chromatographic techniques

FUNDING

1989-1992, 15.000€ DGICYT. MEC, “Solid Phase Spectrometry. Theoretical Studies and Analytical Applicability” (PS88-0101).

1999-2002, 18,000€ Science and Technology Interministerial Commission, “Development of rapid analysis systems using single-use sensors” (PB98-1302).

2000-2005, 46,000€ Department of Defense, “Development of sensors for gasses” (1.2000).

2002, 18,998€ Special Actions (PN I+D+I 2000-2003), “Development of single-use environmental sensors” (REN 2000-2904E).

2001, 28,548€ Coordinated actions developed by different research groups (Andalusia Autonomous Government, 2001), “Study of new ionophores.”

2002, 19,179€ Coordinated actions developed by different research groups (Andalusia Autonomous Government, 2002), “Spectroscopic studies of molecules and development of optical sensors.”

2002-2004, 62,000€ PROFIT program, “Design and development of prototype for portable electronic system for measuring oxygen with optical type chemical sensors” (FIT-020100-2002-372).

2002-2005, 59,900€ DGICTDT. National Program for the General Promotion of Knowledge, “Development of single-use sensors in the environmental and food and agriculture fields” (BQU2002-00353).

2003, 19,530€ Coordinated actions developed by different research groups (Andalusia Autonomous Government, 2003), “Spectroscopic studies of molecules and development of optical sensors” (ACC-1288-FQM-2003).

2003, 220.000€ Scientific-Technological Infrastructure (2003-2004). MCT, FEDER Funds, “Equipping lifetime spectrofluorimeter and two liquid chromatographs.”

2005-2008, 145.000 € DGICTDT. National Program for the General Promotion of Knowledge, “Development of prototypes for portable reconfigurable instrumentation for optical response sensors” (CTQ2005-09060-C02).

Service Activities:

1982-1983: Analytical Chemistry Assistant Head of Department

1984-1986: Director, Chemical Section of the University of Granada Faculty of Sciences

1990-1999: Analytical Chemistry Head of Department

1990-1996 Head of Quality and Hydrobiology Section, University of Granada Water Institute

2000-2002 Representative to the University of Granada Senate

1988-2001: University Delegate to different Granada High Schools

Head of Solid Phase Spectrometry Research Group (initially Group number 4017 of the Andalusia Autonomous Government and currently FQM 118 of the Andalusia Autonomous Government). 1983 to present.

Coordinator of the Andalusian Regional Group of the Spanish Analytical Chemistry Society. Elected September 10, 2002.

PUBLICATIONS

Papers: 193
Books: 3
Book Chapters: 14
Reports: 89
Conference communications: 121
PhD Theses: 19

LIST OF SELECTED PUBLICATIONS

Stability constants of complexes formed by some metal ions with 2-(phenyliminomethyl)pyridine and 2-(o-hydroxyphenyliminomethyl)pyridine. F. Capitán, F. Salinas, L.F. Capitán Vallvey. *Talanta*, **25**, 59 (1978).

Estudio de los complejos que forma la 2-pirilidenanilina con Cu(II), Ag(I), Zn(II), Cd(II) y Hg(II). F. Capitán, F. Salinas, L.F. Capitán Vallvey. *Anales de Química*, **74** (2), 265-271 (1978).

Sur le composé 2-(o-mercaptophényliminométhyl)pyridine et sa capacité de complexation. F. Capitán, F. Salinas, L.F. Capitán Vallvey. *Bulletin de la Société Chimique de France*, **1-2**, 35-42 (1979).

Spectrophotometric extractive determination of iodide as tris (2-phenylimino methyl)pyridine Fe(II) iodide. L.F. Capitán Vallvey, E. Cañadas. *Microchemical Journal*, **25**, 589-594 (1980).

Study of 2-(o-carboxyphenyliminomethyl)pyridine acid and its ferrous complexes. F. Capitán, L.F. Capitán Vallvey, J.L. Vílchez. *Journal of Inorganic & Nuclear Chemistry*, **43**, 683-688 (1981).

Complexes de Cu(II), Co(II), Ni(II) et UO₂(II) avec les bases de Schiff N-(4-méthyl-2-pyridyl)-salicylaldimine et N-(6-méthyl-2-pyridyl)salicylaldimine. L.F. Capitán Vallvey, C. Jiménez, L. Cuadros. *Canadian Journal of Chemistry*, **60** (13), 1713-1719 (1982).

Studies on the thermal decomposition of some metal complexes of 5,5'-methylendisalicylhydroxamic acid. L.F. Capitán Vallvey, D. Gázquez, F. Salinas. *Thermochimica Acta*, **56**, 15-23 (1982).

Rearrangement of 2-(2-thienyl)benzothiazoline in the presence of thiophilic metal ions. L.F. Capitán Vallvey, P. Espinosa. *Polyhedron*, **2** (11), 1147-1153 (1983).

Spectrophotometric determination of trace amounts of titanium in ore and synthetic samples with 5,5'-methylendisalicylhydroxamic acid. F. Capitán, D. Gázquez, M. Sánchez, L.F. Capitán Vallvey. *Analyst*, **109**, 947-949 (1984).

Determination of nitrite in sea-water by ion-exchanger colorimetry. F. Capitán, M.C. Valencia, L.F. Capitán Vallvey. *Mikrochimica Acta*, **III** (3-4), 303-311 (1984).

Study of the 2-(phenyliminomethyl)pyridine-iron(II)-nitroprusside extraction system. F. Capitán, E. Cañadas, J.L. Vílchez, L.F. Capitán Vallvey. *Annali di Chimica*, **75**, 291-299 (1985).

Determination of iron by atomic absorption spectrometry after synergistic extraction of the iron(III)-5,5'-methylendisalicylhydroxamate-tributyl phosphate complex. F. Capitán, D. Gázquez, M. Sánchez, L.F. Capitán Vallvey. *Journal of Analytical Atomic Spectrometry*, **1**, 457-459 (1986).

Microdetermination of fluoride in water by ion-exchanger spectrophotometry. L.F. Capitán Vallvey, M.C. Valencia, J.M. Bosque Sendra. *Analyst*, **113** (3), 419-422 (1988).

Separating platinum from gold during the early eighteenth century. The methods used in Spanish South America. L.F. Capitán Vallvey. *Platinum Metals Review*, **33** (2), 73-80 (1989).

Determination of acetoacetate in urine by solid-phase spectrophotometry. F. Molina, M.C. Valencia, J. de la Torre, L.F. Capitán Vallvey. *Journal of Pharmaceutical & Biomedical Analysis*, **7** (7), 843-850 (1989).

Simultaneous determination of molybdenum and tungsten by first-derivative synchronous spectrofluorimetry. F. Salinas, A. Muñoz de la Peña, L.F. Capitán Vallvey, A. Navalón. *Analyst*, **114**, 1297-1301 (1989).

Simultaneous determination of sulphathiazole and sulphanilamide in pharmaceuticals by derivative spectrophotometry. J.J. Berzas Nevado, F. Salinas, I. de Orbe Payá, L.F. Capitán Vallvey. *Journal of Pharmaceutical and Biomedical Analysis*, **9** (2), 117-122 (1991).

Determination of boron with chromotropic acid by first-derivative synchronous spectrofluorimetry. F. Capitán, A. Navalón, E. Manzano, L.F. Capitán Vallvey, J.L. Vílchez. *Fresenius Journal of Analytical Chemistry*, **340**, 6-10 (1991).

Simultaneous determination of molybdenum and tungsten by first-derivative synchronous solid-phase spectrofluorimetry. F. Capitán, G. Sánchez-Palencia, A. Navalón, L.F. Capitán Vallvey, J.L. Vílchez. *Analytica Chimica Acta*, **259**, 345-353 (1992).

Determination of thiabendazole residues in waters by solid phase spectrofluorimetry. F. Capitán, E. Alonso, R. Avidad, L.F. Capitán Vallvey, J.L. Vílchez. *Analytical Chemistry*, **65** (10), 1336-1339 (1993).

Implementation of the ultraviolet solid-phase spectrophotometry by use of derivative techniques. L.F. Capitán Vallvey, I. De Orbe, M.C. Valencia, J.J. Berzas Nevado. *Analytica Chimica Acta*, **282** (1), 75-80 (1993).

Estudio comparativo de algunos zócalos pintados nazaríes localizados en diversos edificios de Granada. L.F. Capitán Vallvey, E. Manzano, V.J. Medina Florez. *Cuadernos de la Alhambra*, **28**, 231-251 (1993).

The Spanish monopoly of platinum. Stages in the development and implementation of a policy. L.F. Capitán Vallvey. *Platinum Metal Review*, **38** (1), 22-31 (1994).

A study of the materials in the mural paintings at the "Corral del Carbón" in Granada, Spain. L.F. Capitán Vallvey, E. Manzano, V.J. Medina Florez. *Studies in Conservation*, **39**, 87-99 (1994).

Determination of iron at ng/ml level by solid phase spectrophotometry after preconcentration on cation exchange filters. F. Capitán, R. Checa, R. Avidad y L.F. Capitán Vallvey. *Talanta*, **42** (5), 711-715 (1995).

Close overlapping discrimination of polycyclic aromatic hydrocarbons by synchronous scanning at variable-angle solid phase spectrofluorimetry. L.F. Capitán Vallvey, M. del Olmo, R. Avidad, A. Navalón, I. de Orbe, J.L. Vílchez. *Analytica Chimica Acta*, **302**, 193-200 (1995)

Simultaneous determination of Quinoline Yellow and Brilliant Blue FCF in cosmetics by solid-phase spectrophotometry. L.F. Capitán Vallvey, N. Navas Iglesias, I. de Orbe Payá, R. Avidad Castañeda. *Talanta*, **43**, 1457-1463 (1996)

Export and smuggling of Spanish platina in the eighteenth century. L.F. Capitán Vallvey. *Annals of Science*, **53**, 467-487 (1996)

Simultaneous determination of colorants mixtures used in cosmetics by partial least squares multivariate calibration spectrophotometry. L.F. Capitán Vallvey, N. Navas, R. Avidad, I. de Orbe Payá, J.J. Berzas Nevado. *Analytical Sciences*, **13**, 493-496 (1997)

Solid-phase spectrophotometric determination of trace amounts of hydrazine at sub-ng ml⁻¹ level. P. Ortega Barrales, A. Molina Díaz, M.I. Pascual Reguera, L.F. Capitán Vallvey. *Analytica Chimica Acta*, **353**, 115-122 (1997)

Use of transmitted room-temperature phosphorescence to improve nalidixic acid determination. L.F. Capitán Vallvey, F. Ojeda, M. del Olmo, R. Avidad, A. Navalón, T. Vo-Dinh. *Applied Spectroscopy*, **52**, 101-105 (1998)

Solid-phase UV spectroscopic multisensor for the simultaneous determination of caffeine, dimenhydrinate and acetaminophen by using partial least squares multicalibration. M.J. Ayora Cañada, M.I. Pascual Reguera, A. Molina Díaz, L.F. Capitán Vallvey. *Talanta*, **49**, 691-701 (1999)

Chemiluminescence determination of sodium 2-mercaptoethane sulfonate (Mesna) by Flow Injection Analysis using cerium (IV) sensitized by quinine. L.F. Capitán-Vallvey, M.C. Valencia Mirón, R. Acosta Acosta. *Talanta*, **51**, 1155-1161 (2000)

Resolution of mixtures of three-nonsteroidal anti-inflammatory drugs by fluorescence using partial least squares multivariate calibration with previous wavelength selection by Kohonen artificial neural networks
L.F. Capitán-Vallvey, N. Navas, M. Del Olmo, V. Consonni, R. Todeschini
Talanta, **52**, 1069-1079 (2000)

Determination of calcium by means of a single-use optical sensor. L.F. Capitán-Vallvey, P. Alvarez de Cienfuegos-Gálvez, M.D. Fernández Ramos, R. Avidad-Castañeda. *Sensors and Actuators B*, **71**, 140-146 (2000)

Monoparameter sensors for the determination of the antioxidants butylated hydroxyanisole and n-propyl gallate in foods and cosmetics by flow injection spectrophotometry. L.F. Capitán-Vallvey, M.C. Valencia, E. Arana Nicolás. *The Analyst*, **126**, 897-902 (2001)

Flow-injection analysis of the insecticide imidacloprid in water samples with photochemically induced fluorescence detection. J.L. Vílchez, M.C. Valencia, A. Navalón, B. Molinero-Morales, L.F. Capitán-Vallvey. *Analytica Chimica Acta*, **439**, 299-305 (2001)

High performance liquid chromatography determination of Zn-Bacitracin in animal feed by post-column derivatization and fluorescence detection. L.F. Capitán-Vallvey, A. Titos, R. Checa, N. Navas. *Journal of Chromatography A*, **943**, 227-234 (2002)

Determination of five nitroimidazoles in water by Liquid Chromatography-Mass Spectrometry
L.F. Capitan-Vallvey, A. Ariza, R. Checa, N. Navas. *Journal of Chromatography A*, **978**, 243-248 (2002)

Characterization of a transparent optical test strip for quantification of water hardness. L.F. Capitán-Vallvey, M.D. Fernández Ramos, P. Alvarez de Cienfuegos Gálvez, F. Santoyo. *Analytica Chimica Acta*, **481**, 139-148 (2003).

Simple resolution of butylated hydroxyanisole and n-propyl gallate in fat foods and cosmetics samples by flow-injection solid phase spectrophotometry. L.F. Capitán-Vallvey, M.C. Valencia, E. Arana Nicolás. *Journal of Food Sciences*, **68** (5), 1595-1599 (2003)

Determination of Hypochlorite in Water Using a Chemiluminescent Test Strip. J.Ballesta Claver, M.C. Valencia Mirón, L.F. Capitán- Vallvey. *Analytica Chimica Acta*, **522**, 267-273 (2004)

Convenient Methods for the Synthesis of Ferrocene-Carbohydrate Conjugates. J.M. Casas-Solvas, A. Vargas-Berenguel, L.F. Capitán-Vallvey, F. Santoyo-González. *Organic Letters*, **6** (21) 3687-3690 (2004)

One-Shot Receptor-Based Optical Sensor for Nitrate. Luis Fermín Capitán-Vallvey, Eduardo Arroyo-Guerrero, María Dolores Fernández-Ramos, F. Santoyo. *Analytical Chemistry*, **77**, 4459-4466 (2005).

Development of a One-Shot Optical Citrate Sensor Based on a Guanidinium Synthetic Receptor. L.F. Capitán-Vallvey, E. Arroyo-Guerrero, M.D. Fernández-Ramos, F. Santoyo. *Microchimica Acta*, **151**, 93-100 (2005)

Intense Sweeteners in *Handbook of Food Analysis*, 2^a ed., volumen 2, cap. 43, pp. 1643-1739. L.F. Capitán Vallvey. Editor Leo M.L. Nollet. Marcel Dekker Inc., New York. 2004, ISBN 0-8247-5038-pp

Luminescence. Solid Phase in *Encyclopedia of Analytical Science* 2nd Edition, Ms 340, pp. 315-322. L.F. Capitán Vallvey. Editors Paul Worsfold, Alan Townshend, Colin Poole. Academic Press, Oxford. 2004, ISBN 0-1276-4100-9

Languages:

Spanish, English, French

Membership in Professional Organizations:

Royal Spanish Chemistry Society (*Real Sociedad Española de Química*)

Spanish Analytical Chemistry Society (*Sociedad Española de Química Analítica*)

Andalusia Group of the Spanish Analytical Chemistry Society (*Grupo Andaluz de la Sociedad Española de Química Analítica*)

Spanish Science and Technology History Society (*Sociedad Española de Historia de las Ciencias y de las Técnicas*)