

CURRICULUM VITAE

Personal Data

Surname : **Steele**

First Names : **Barry Richard**

Nationality : British
Greek (by naturalisation, 1987)

Work Address : Institute of Organic and Pharmaceutical Chemistry
National Hellenic Research Foundation
Vas. Constantinou 48
116 35 Athens
Tel. 2107273855 Fax: 2107273877
e-mail : bsteele@eie.gr

Studies

1967-1971 : Bachelor of Arts (B.A.) (Honours), School of Natural Sciences,
Department of Chemistry, University of Oxford, UK.

1971-1974 : Doctor of Philosophy (D.Phil.), School of Molecular Sciences,
University of Sussex, UK.

Employment Experience

1974-1975 : Post-doctoral Fellow, University of Sussex, UK.

1975-1977 : Scientific Collaborator, University of Amsterdam, The Netherlands.

1977-1979 : Post-doctoral Fellow, University of Saskatchewan, Canada.

1979-1981 : Head of Spectroscopy Section at Beechams Pharmaceutical
Research Centre, Surrey, UK.

1981-1985 : Teacher of Chemistry and Physics at the Advanced Technology
Centre, Athens and at the Center for Embry-Riddle Aeronautical
Studies, Athens.

1985-1994 : Researcher at the National Hellenic Research Foundation (fixed
term contracts)

1995-2002 : Special Functional Scientist at the National Hellenic Research
Foundation

2002 to present : Research Director at the National Hellenic Research Foundation

Scientific Interests

- Study and use of Main Group alkoxides and organometallic compounds. The use of metal alkoxide additives can radically alter the reactivity of organometallic reagents. We exploit these properties for the development of new synthetic methodologies. A particular instance is the discovery of a new and simple procedure for the synthesis of novel sterically hindered aromatic compounds.
- Design and synthesis of dendrimers with applications in biomedicine, materials science and environmental chemistry. The focus is on molecules with anti-oxidant properties, with chromophore motifs and with metal chelating properties.
- Development of synthetic procedures towards organometallic stilbene derivatives and their further elaboration. The aim is to prepare compounds with special optical properties or biological behaviour.
- Synthesis and study of new aromatic phosphorus derivatives with nitrogen- or oxygen-containing donors. These compounds serve as hemi-labile ligands in certain transition metal complexes which are studied for their potential catalytic activity in, for example, hydroformylation and carbon-carbon coupling reactions (Heck, Suzuki etc.)
- Use of radical anions for the reductive cleavage of carbon-heteroatom bonds and the formation of organometallic reagents. These systems have been studied by multinuclear NMR (^1H , ^2H , ^{13}C , ^6Li , ^7Li , ^{17}O , ^{31}P) in order to obtain information regarding their structure and reactivity.

Other Activities

- Preparation of Research funding proposals (see list below).
- Management of Research Network Projects: "*Simple and Mixed Metal Alkyls, Alkoxides and Amides in Synthesis and Catalysis and as Precursors for Ceramic and Polymeric Materials*" (Human Capital and Mobility Network), "*Design, Synthesis and Study of Novel Non-linear Optical Materials*" (Training and Mobility of Researchers Network), ARCADE (Regpot-2009) which were coordinated by the IOPC.
- Teaching activities : Seminars to secondary education teachers, (National Hellenic Research Foundation, May 1998). Post-Graduate course in organometallic chemistry (EURODESY project 2006-2010)
- Participation on committees for the acquisition of scientific instruments and committees for the evaluation of research personnel.
- Expert evaluator for FP6 and FP7 EU programmes
- Member of Organising Committee, 10th FECHEM Conference on Organometallic Chemistry, September 1993, Crete.
- General Secretary, 20th International Conference on Organometallic Chemistry, July 2002, Corfu.
- Chairman, COST D31 Workshop, March 2007, Athens

Research Projects

A. Scientist in Charge

1. **PENED 1999 (99ED 173)**

01/01/2000 - 30/07/2001

Title: Monomeric and polymeric chiral micelles as microreactors for the production of technological useful materials.

Collaboration between NRCPS Democritos, NHRF, University of Athens.

2. **Joint Research and Technology Programm for Bilateral Cooperation, Greece-Russia**

1999 - 2001

Title: Design and synthesis of hemi-labile ligands for homogeneous catalysis.

Collaboration between NHRF, Siberian Branch of the Russian Academy of Sciences

3. **Joint Research and Technology Programm for Bilateral Cooperation, Greece-Poland**

2000 - 2002

Title: Comparative study of the chemistry of aluminium and nickel cyclopentadienyl derivatives.

Collaboration between NHRF, Warsaw University of Technology

4. **Joint Research and Technology Programm for Bilateral Cooperation, Greece-Russia**

2002 - 2004

Title: Novel catalysts for industrially important processes.

Collaboration between NHRF, Siberian Branch of the Russian Academy of Sciences

5. **PRAXE (M 4.1.1, EPAN)**

Title: New products with high added value.

NHRF

6. **ENTER (EPAN 01EP 70)**

Title: Design and synthesis of new near-infrared organometallics

Fellowship to Dr. Veronika Kovač

NHRF

7. **Marie Curie Intra-European Fellowship (MEIF-CT-2003-501082)**

Title: Design, synthesis and study of novel organometallic near infrared dyes

Fellowship to Dr. Carolina Villalonga-Barber

NHRF

8. IKYDA 2004

Title: Active catalytic systems with complexes of rhodium, palladium and zinc with hemi-labile sterically demanding phosphorus-nitrogen ligands.

Collaboration between NHRF, Universität Leipzig.

9. PENED 2003 (EPAN 03ED242)

Title: Dendrimers as near-infrared dyes

NHRF

10. REGPOT-2009-1 (FP7)-“ARCADE” (GA 245866)

Title: Advancement of Research Capability for the Development of New Functional Compounds

NHRF

B. Project Participations

11. Human Capital and Mobility (CHRX-CT93-0148)

1/9/93 - 31/12/96

Title: Conjugated Ladder-Type Oligomers and Polymers Containing Fused Six- and Five-Membered Rings” - Human Capital and Mobility Network (1/9/93-31/12/96)

Network involving groups from Greece, UK, Germany, Italy and Portugal.

12. Human Capital and Mobility (CHRX-CT93-0281)

1/12/93 - 31/3/97

Title: Simple and Mixed Metal Alkyls, Alkoxides and Amides in Synthesis and Catalysis and as Precursors for Ceramic and Polymeric Materials

Network involving groups from Greece, UK, Germany, Spain, France, Ireland and the Netherlands. The network was coordinated by the IOPC, NHRF.

13. Training and Mobility of Researchers (ERBFMRXCT 960047)

1/10/96 - 30/9/00

Title: Design, Synthesis and Study of Novel Non-linear Optical Materials

Network involving groups from Greece, UK, Germany, Sweden, France and Ireland. The network was coordinated by the IOPC, NHRF.

14. YPER 1997

1/1/1999 - 31/12/2001

Title: Synthesis of compatible organic additives for the protection of coloured polyester fibres from photochemical bleaching.

Collaboration between NHRF, VIOCHROM.

15. EPET II-EKBAN 98/66

11/11/1998 - 30/4/2001

Title: Development of new methods for the therapy and prognosis of hormone dependent neoplasia.

Collaboration between NHRF, University of Patras, University of Crete, RAFARM AEBE.

16. Excellence in Research Centres overseen by the GSRT (EPAN 3.3.1)

1/4/2002 – 31/3/2005

Title: New approaches against neurogenerative diseases.

NHRF

17. Marie Curie Transfer of Knowledge (MTKD-CT-2004-014399) – “Sopholides”

(2005-2009)

Title: Solid-phase phospholipid and dendrimer synthesis

NHRF

18. Marie Curie Early Stage Training (MEST-CT-020575) – “EURODESY”

(2006-2010)

Title: A European research training site for the design and synthesis of novel neuroprotective and hypoglycaemic agents through a multidisciplinary approach

NHRF

C. Other Collaborations

19. Quality of Life and Management of Living Resources

10/1/2002 – 9/1/2003

Title: Design of foods with improved functionality and superior health effects.

Collaboration/provision of services with the University of Thessaloniki

20. COST (European Cooperation in the field of Scientific and Technical Research), Action D31

2004-2009

Title: Organising Non-Covalent Chemical Systems with Selected Functions

Member of the Management Committee.

PUBLICATIONS

Theses

1. "Hydrazine complexes of platinum", for the degree B.A.(Hons.), University of Oxford, 1971
2. "The chemistry of compounds with platinum-tin bonds", doctoral thesis, University of Sussex, 1974

Publications in Refereed Journals

1. C. Eaborn, A. Pidcock and B. R. Steele, *J. Chem. Soc., Dalton Trans.*, **1975**, 809-813.
"The reaction between carbonatobis(phosphine)platinum(II) complexes and triorganotin hydrides. Formation of Sn-Pt^{IV} bonds."
2. C. Eaborn, A. Pidcock and B.R. Steele, *J. Chem. Soc., Dalton Trans.*, **1976**, 767-776.
"Oxidative addition of triorganotin halides to platinum(0) complexes."
3. B.R. Steele and K. Vrieze, *Transition Met. Chem.*, **1977**, 2, 140-144.
"Complexes with metal-carbon bonds, Part III. Preparation and properties of binuclear diarylplatinum(0) compounds."
4. B.R. Steele and K. Vrieze, *Transition Met. Chem.*, **1977**, 2, 169-174.
"Complexes with metal-carbon bonds, Part IV. Binuclear diarylplatinum(III) complexes. Long-range trans-effect in platinum-platinum bonded compounds containing methyl and aryl groups."
5. C.C. Lee, B.R. Steele, K.J. Demchuk and R.G. Sutherland, *Can. J. Chem.*, **1979**, 57, 946-948.
"Nucleophilic reactions of zwitterionic species from deprotonation of η^6 -arene- η^5 -cyclopentadienyliron cations."
6. R.G. Sutherland, B.R. Steele, K.J. Demchuk and C.C. Lee, *J. Organomet. Chem.*, **1979**, 181, 411-424.
"Zwitterionic species from deprotonation of η^6 -arene- η^5 -cyclopentadienyliron cations and their reactions as nucleophiles."
7. C.C. Lee, B.R. Steele and R.G. Sutherland, *J. Organomet. Chem.*, **1980**, 186, 265-270.
"Ligand exchange of some heterocyclic analogues of fluorene and anthracene with ferrocene."

8. B.R. Steele, C.C. Lee, and R.G. Sutherland, *J. Chem. Soc., Dalton Trans.*, **1981**, 529-534.
"A carbon-13 nuclear magnetic resonance study of (arene)(cyclopentadienyl)iron salts."
9. A.E. Bird, B.R. Steele, M.O. Boles and P.A.C. Ganes, *J. Chem. Soc., Perkin Trans. 1*, **1982**, 563-569.
"Nuclear magnetic resonance and circular dichroism of penicillins derived from disubstituted acetic acids."
10. C.C. Lee, A. Piorko, B.R. Steele, U.S. Gill and R.G. Sutherland, *J. Organomet. Chem.*, **1983**, 256, 303-308.
"Ring opening reactions of some η^6 -heterocycle- η^5 -cyclopentadienyliron hexafluorophosphates."
11. C.G. Screttas and B.R. Steele, *J. Organomet. Chem.*, **1986**, 317, 137-144.
"Formation of ketones in the reaction of aldehydes with unsolvated dibutylmagnesium in hydrocarbon solvents under homogeneous conditions and its implications."
12. C.G. Screttas and B.R. Steele, *J. Org. Chem.*, **1988**, 53, 5151-5153.
"Carboxamidation of organolithium and organomagnesium reagents by a two-step one-flask reaction. Promotion by magnesium alkoxides."
13. C.G. Screttas and B.R. Steele, *J. Org. Chem.*, **1989**, 54, 1013-1017.
"Metal alkoxide modified organometallic reagents. Preparation and stability of organolithium reagents in tetrahydrofuran in the presence of magnesium 2-ethoxyethoxide."
14. C.G. Screttas and B.R. Steele, *J. Organomet. Chem.*, **1993**, 453, 163-170.
"Activated alkyl- and allylalkali metal reagents. Contrasting behaviour towards ethylene."
15. C.G. Screttas, G.A. Heropoulos and B.R. Steele, *J. Chem. Soc., Faraday Trans.*, **1996**, 1717-1719.
"Deviation from Trouton's rule and a method for converting a non-constitutive molecular parameter into a constitutive one"
16. C.G. Screttas, M. Micha-Screttas and B.R. Steele, *J. Organomet. Chem.*, **1997**, 536-537, 149-163.
"The tert-butyl chloride-lithium naphthalene radical anion and tert-butyllithium-naphthalene systems. Mechanism of metallation"
17. J. Andrieu, B.R. Steele, C.G. Screttas, C.J. Cardin and J. Fornies, *Organometallics*, **1998**, 17, 839-845.
"Synthesis of new phosphinoaminoalcohol ligands via ortho-alkyllithiation reactions. Versatile coordination behaviour towards Cu(I) and Pd(II)."
18. C.G. Screttas, G.A. Heropoulos, B.R. Steele and D. Bethell, *Mag. Res. Chem.*, **1998**, 36, 656-662.

“Phosphorus-31 contact shifts as a measure of weak ligand affinities. Interaction between alkali metal fluorenone radical anions and certain phosphorus (III and V) ligands.”

19. A. Behrendt, C.G. Screttas, D. Bethell, O. Schiemann and B.R. Steele, *J. Chem. Soc., Perkin Trans. 2*, **1998**, 2039-2045.
“Magnetic and electrochemical investigations on anions derived from oligoketones containing fluorenone and benzophenone units. An approach to the design of stable multiradical organic materials.”
20. M. Micha-Screttas, G. A. Heropoulos and B.R. Steele, *J. Chem. Soc., Perkin Trans. 2*, **1999**, 1443-1446.
“Evidence for a concentration dependent $^{6(7)}\text{Li}$ NMR contact shift in tetrahydrofuran solutions of lithium naphthalene radical anion and the effect of added $^{6(7)}\text{LiCl}$ ”
21. C.S. Salteris, I.D. Kostas, M. Micha-Screttas, B.R. Steele, G.A. Heropoulos, C.G. Screttas and A. Terzis *J. Organomet. Chem.*, **1999**, 590, 63-70.
“Synthesis of lithium ω -(m- and p-lithiophenoxy)alkoxides modified with magnesium 2-ethoxyethoxide. Crystal structures of bis[4-(2-hydroxyethoxy)phenyl]mercury and bis[4-(3-hydroxypropoxy)phenyl]mercury”
22. M. Micha-Screttas, G. A. Heropoulos and B.R. Steele, *J. Chem. Soc., Perkin Trans. 2*, **1999**, 2685-2690.
“Interaction between alkali metal aromatic ketone radical anions and the chlorides of lithium and magnesium in solution. A case of a carbon-carbon bond strengthening through complex formation”
23. B.R. Steele and C.G. Screttas, *J. Am. Chem. Soc.* **2000**, 122, 2391-2392.
“A chemoselective catalytic side-chain alkylation of aromatics by ethylene leading to sterically demanding alkylbenzenes.”
24. S.R. Bayly, E.R. Humphrey, H. de Chair, C.G. Paredes, Z.R. Bell, J.C. Jeffery, J.A. McCleverty, M.D. Ward, F. Totti, D. Gatteschi, S. Courric, B.R. Steele and C.G. Screttas, *J. Chem. Soc. Dalton Trans.* **2001**, 1401-1414
“Electronic and magnetic metal-metal interactions in dinuclear oxo-Mo(V) complexes across bis-phenolate bridging ligands with different spacers between the phenolate termini: ligand-centred vs. metal-centred redox activity”
25. M. Micha-Screttas, G. A. Heropoulos and B.R. Steele, *Mag. Res. Chem.* **2001**, 39, 586-592.
“Structural changes in concentrated solutions of alkali metal monosubstituted benzophenone radical anions in pure and mixed solvents”
26. B.R. Steele, M. Micha-Screttas and C.G. Screttas, *Appl. Organomet. Chem.* **2002**, 16, 501-505
“Applications of novel sterically demanding aromatics in organometallic synthesis”
27. M. Micha-Screttas, C.G. Screttas, B.R. Steele and G. A. Heropoulos, *Tetrahedron Lett.* **2002**, 43, 4871-4873.

“Chemical and physical evidence for metal-metal interchange between lithium alkoxides and dibutylmagnesium”

28. I.D. Kostas, B.R. Steele, A. Terzis and S.V. Amosova, *Tetrahedron*, **2003**, *59*, 3467-3473.
“A palladium complex with a new hemilabile amino- and sulfur-containing phosphinite ligand as an efficient catalyst for the Heck reaction of aryl bromides with styrene. The effect of the amino group.”
29. D.P. Catsoulacos, B.R. Steele, G.A. Heropoulos, M. Micha-Screttas and C.G. Screttas, *Tetrahedron Lett.*, **2003**, *44*, 4575-4578.
“An imino-phosphine dendrimeric ligand and its evaluation in the Heck reaction”
30. C.G. Screttas, G.A. Heropoulos, M. Micha-Screttas, B.R. Steele and D.P. Catsoulacos, *Tetrahedron Lett.*, **2003**, *44*, 5633-5635
“Reductive lithiation of alkyl phenyl sulfides in diethyl ether. A ready access to α,α -dialkylbenzylolithiums”
31. G.C. Papavassiliou, G.A. Mousdis, G.C. Anyfantis, N. Assimomytis and B.R. Steele, *Z. Naturforsch. B* **2003**, *58b*, 813-814.
“Preparation and characterization of 5,6-dimethyl-5,6-dihydro-[1,4]diselenino[2,3-d][1,3]dithiole-2-thione and similar compounds”
32. A. Lazaridou, C.G. Biliaderis, M. Micha-Screttas and B. R. Steele, *Food Hydrocolloids*, **2004**, *18*, 837-855.
“A comparative study on structure – function relations of mixed linkage (1→3), (1→4) linear β -D-glucans”
33. A.V. Martynov, N.A. Makhaeva, V. A. Potapov, S.V. Amosova, B.R. Steele and I.D. Kostas, *Phosphorus Sulfur*, **2004**, *179*, 1373-1380.
“Reduction of terminal organylchalcogeno phosphonates as a way to prepare primary organylchalcogeno phosphines”
34. I. D. Kostas, B.R. Steele, F.J. Andreadaki and V.A. Potapov, *Inorg. Chim. Acta*, **2004**, *357*, 2850-2854.
“Rhodium complexes possessing S-phosphinite ligands with or without an amino group. Application to hydroformylation of styrene”
35. B.R. Steele, M. Micha-Screttas and C.G. Screttas, *Tetrahedron Lett.* **2004**, *45*, 9537-9540.
“Synthesis and properties of 1-bromo-2,3,5,6-tetrakis(3-pentyl)benzene : a highly sterically hindered aryl bromide”
36. C. Arbez-Gindre, B.R. Steele, G.A. Heropoulos, C.G. Screttas, J.-E. Communal, W.J. Blau and I. Ledoux-Rak, *J. Organomet. Chem.* **2005**, *690*, 1620-1626
“A facile organolithium route to ferrocene-based triarylmethyl dyes with substantial near IR and NLO properties”
37. G.A. Heropoulos, S. Georgakopoulos and B.R. Steele, *Tetrahedron Lett.* **2005**, *46*, 2469-2473

“High intensity ultrasound assisted reduction of sterically demanding nitroaromatics”

38. S.V. Amosova, N.A. Makhaeva, A.V. Martynov, V.A. Potapov, B.R. Steele and I.D. Kostas, *Synthesis* **2005**, 1641-1648
“Terminal organochalcogenoethyl- and -propylamines and their Schiff base derivatives.”
39. C.G. Screttas, G.A. Heropoulos, M. Micha-Screttas and B.R. Steele, *Tetrahedron Lett.* **2005**, 46, 4357-4360.
“Medium-dependent lithiated side products in the reductive lithiation of allylic phenyl thioethers. Diethyl ether versus tetrahydrofuran”
40. B.R. Steele, C. Villalonga-Barber, M. Micha-Screttas and C.G. Screttas, *Tetrahedron Lett.* **2006**, 47, 2093-2097.
“Selective catalytic carbanionic ethylation of methylphenols. Influence of catalyst and substitution pattern”
41. C. Villalonga-Barber, B. R. Steele, V. Kovač, M. Micha-Screttas and C. G. Screttas, *J. Organomet. Chem.* **2006**, 691, 2785-2792.
“New stable, isolable triarylmethyl based dyes absorbing in the near infrared”
42. I. D. Kostas, B. R. Steele, A. Terzis, S. V. Amosova, A. V. Martynov and N. A. Makhaeva, *Eur. J. Inorg. Chem.* **2006**, 2642-2646.
“New palladium complexes with S- or Se-containing Schiff base ligands as efficient catalysts for the Suzuki-Miyaura cross-coupling reaction of aryl bromides with phenylboronic acid under aerobic conditions”
43. G. A. Heropoulos, G. Cravotto, C. G. Screttas and B. R. Steele, *Tetrahedron Lett.* **2007**, 48, 3247-3250.
“Contrasting chemoselectivities in the ultrasound and microwave assisted bromination reactions of substituted alkylaromatics with *N*-bromosuccinimide”
44. G. C. Papavassiliou, G. C. Anyfantis, B. R. Steele, A. Terzis, C. P. Raptopoulou, G. Tatakis, G. Chaidogiannos, N. Glezos, Y. Weng, H. Yoshino and K. Murata, *Z. Naturforsch. B* **2007**, 62b, 679-684.
“Some new nickel 1,2-dichalcogenolene complexes as single-component semiconductors”
45. B. R. Steele, G. A. Heropoulos and C. G. Screttas, *Collect. Czech. Chem. Commun.* **2007**, 72, 589-598.
“Metal chloride reductions with aromatic radical anions. The magnesium chloride catalysed cleavage of tetrahydrofuran by sodium naphthalene radical anion”
46. B. R. Steele, S. Georgakopoulos, M. Micha-Screttas and C. G. Screttas, *Eur. J. Org. Chem.* **2007**, 3091-3094.
“Synthesis of new sterically hindered anilines”
47. G. Skretas, A. Meligova, C. Villalonga-Barber, D. J. Mitsiou, M. N. Alexis, M. Micha-Screttas, B. R. Steele, C. G. Screttas and D. W. Wood, *J. Am. Chem. Soc.* **2007**, 129, 8443 - 8457.

“Engineered chimeric enzymes as tools for drug discovery: Generating reliable bacterial screens for the detection, discovery and assessment of estrogen receptor modulators”

48. G. Pagona, A. S. D. Sandanayaka, A. Maigné, J. Fan, G. C. Papavassiliou, I. D. Petsalakis, B. R. Steele, M. Yudasaka, S. Iijima, N. Tagmatarchis and O. Ito, *Chem. Eur. J.* **2007**, *13*, 7600-7607.
“Photo-induced electron-transfer on aqueous carbon nanohorn-pyrene-tetrathiafulvalene architectures”
49. S. V. Amosova, V. N. Elokhina, A. S. Nakhmanovich, L. I. Larina, A. V. Martynov, B. R. Steele and V. A. Potapov, *Tetrahedron Lett.* **2008**, *49*, 974-976.
“Reactions of selenourea with benzoyl- and 2-thienoylbromo-acetylenes: synthesis of 1,3-diselenetanes and 1,4-diselenafulvenes”
50. F. Wiesbrock, C. Patteux, T. K. Olszewski, A. Blanrue, G. A. Heropoulos, B. R. Steele, M. Micha-Screttas and T. Calogeropoulou, *Eur. J. Org. Chem.* **2008**, 4344-4349.
“Solution-phase synthesis and scale-up of 1st generation tetraester-dendritic branches involving microwave and/or ultrasonic irradiation”
51. M. Bucos, C. Villalonga-Barber, M. Micha-Screttas, B. R. Steele, C. G. Screttas and G. A. Heropoulos, *Tetrahedron* **2010**, *66*, 2061-2065.
“Microwave assisted solid additive effects in simple dry chlorination reactions with N-chlorosuccinimide”
52. K. Gardikis, S. Hatziantoniou, M. Bucos, D. Fessas, M. Signorelli, T. Felekis, M. Zervou, C. G. Screttas, B. R. Steele, M. Ionov, M. Micha-Screttas, B. Klajnert, M. Bryszewska and C Demetzos, *J. Pharm. Sci.* **2010**, *99*, 3561-3571.
“New drug delivery nanosystem combining liposomal and dendrimeric technology (liposomal locked-in dendrimers) for cancer therapy”

Review articles

53. C.G. Screttas and B.R. Steele, *Org. Prep. Proced. Int.*, **1990**, *22*, 269-314.
“Organometallic carboxamidation. A review.”
54. C.G. Screttas and B.R. Steele, *Appl. Organomet. Chem.* **2000**, *14*, 653-659
“Mixed main group metal alkyls and alkoxides in synthesis and catalysis”
55. C. Villalonga-Barber, M. Micha-Screttas, B.R. Steele, A. Georgopoulos and C. Demetzos, *Curr. Top. Med. Chem.* **2008**, *8*, 1294-1309.
“Dendrimers as biopharmaceuticals: Synthesis and properties”

Books

56. "Perspectives in Organometallic Chemistry", ed. C.G. Screttas and B.R. Steele, Royal Society of Chemistry, Cambridge, **2003**.

Patents

57. M. Micha-Screttas, C. Villalonga Barber, B.R. Steele, M.N. Alexis, GR 1005435
"New substituted stilbenoid derivatives with neuroprotective activity"

Othe Publications

58. M. Micha-Screttas, B.R. Steele and G.A. Heropoulos, *Chimika Chronika*, **1997**, *59*, 75-78.
"The role of infrared spectroscopy in the prognosis and diagnosis of malignant neoplasia" (in Greek)
59. B.R. Steele
"Organometallic chemistry of Main Group metals" in "Modern Organic Chemistry and Applications", NHRF, IOPC, Athens, 1998, pp 20-26. (in Greek)
60. K. Gardikis, M. Micha-Screttas, B.R. Steele, C. Demetzos, *Pharmakeftiki* **2006**, *IV*, 89-92.
"An overview of dendrimers and their biomedical applications"
61. A. Rucinska, K. Gardikis, M. Ionov, M. Jokiel, T. Felekis, B.R. Steele, C.G. Screttas, C. Demetzos, M. Micha-Screttas, M. Bryszewska, T. Gabryelak, *Rev. Clin. Pharmacol. Pharmacokin. Int. Ed.* **2008**, *22*, 319.
"Cell toxicity and fluorescence spectroscopy studies of carboxyl, amine and hydroxyl terminated dendrimers"

Conference Announcements

International Meetings

1. B.R. Steele, K.J. Demchuk, R.G. Sutherland and C.C. Lee, 61st Conference of the Canadian Institute of Chemistry, Winnipeg, Manitoba, 1978.
“Nucleophilic reactions of zwitterions derived from the deprotonation of η^6 -arene- η^5 -cyclopentadienyliron cations”
2. B.R. Steele, R.G. Sutherland and C.C. Lee, 62nd Conference of the Canadian Institute of Chemistry, Vancouver, British Columbia, 1979.
“preparation and reactions of heterocyclic analogues of η^6 -anthracene- and η^6 -fluorene- η^5 -cyclopentadienyl cations”
3. R.G. Sutherland, B.R. Steele, K.J. Demchuk and C.C. Lee, 177th National Meeting of the American Chemical Society, Honolulu, Hawaii, 1979.
“Reactions of zwitterions formed by the deprotonation of η^6 -arene- η^5 -cyclopentadienyliron cations”
4. R.G. Sutherland, U.S. Gill, B.R. Steele and C.C. Lee, IXth International Conference on Organometallic Chemistry, Dijon, France, 1979.
“New reactions of η^6 -arene- η^5 -cyclopentadienyliron cations and some synthetic applications”
5. R.G. Sutherland, U.S. Gill, B.R. Steele and C.C. Lee, 2nd Chemical Congress of the North American Continent, San Francisco, California, 1980.
“New reactions of η^6 -arene- η^5 -cyclopentadienyliron cations and some synthetic applications”
6. B.R. Steele, C.G. Screttas and G.A. Heropoulos, XVth International Conference on Organometallic Chemistry, 1992, Warsaw, Poland.
“Radical anion reduction of compounds of mercury, bismuth and related systems. Determination of stoichiometry by magnetic titration”
7. B.R. Steele and C.G. Screttas, XVIth International Conference on Organometallic Chemistry, 1994, Brighton, UK
“Metallation of alkylaromatics using “higher-order” superbases. Zirconium catalysed addition to olefins”
8. B.R. Steele and C.G. Screttas, XIth FECHEM Conference on Organometallic Chemistry, 1995, Parma, Italy
“Metallacycles and macrocycles from heterosubstituted aryllithiums”
9. C.G. Screttas, M. Micha-Screttas and B.R. Steele, XVIIth International Conference on Organometallic Chemistry, 1996, Brisbane, Australia
“Mechanism of lithiation of aromatics: the *tert*-butyl chloride-lithium naphthalene radical anion and *tert*-butyllithium-naphthalene systems”
10. J. Andrieu, B.R. Steele and C.G. Screttas, XIIth FECHEM Conference on Organometallic Chemistry, 1997, Prague, Czech Republic

"*Ortho*-alkyllithiation route to new aminoalcohol phosphines. Formation of a novel ammonium methylpalladium(II) alkoxide complex"

11. B.R. Steele and C.G. Screttas, 1st International Conference of the Chemical Societies of the South-East European Countries, Halkidiki, Greece, 1998.
"Higher-Order Superbases : Metallation of alkylaromatics and catalytic addition to ethylene"
12. B.R. Steele and C.G. Screttas, XVIIIth International Conference on Organometallic Chemistry, Munich, 1998,
"A magnesium alkoxide modified organoalkali metal reagent for the catalytic alkylation of alkylarenes by ethylene"
13. C.G. Screttas, C. Arbez-Gindre, G.A. Heropoulos, B.R. Steele and M. Micha-Screttas, XVIIIth International Conference on Organometallic Chemistry, Munich, 1998,
"Synthesis and applications of organolithium and organomagnesium reagents bearing non-linear chromophores".
14. B.R. Steele, C. Arbez-Gindre, G. A. Heropoulos, C.G. Screttas and M. Micha-Screttas, 33rd International Conference on Coordination Chemistry, Florence, Italy, 1998.
"Organolithium and organomagnesium reagents in nonlinear optical material synthesis".
15. M. Micha-Screttas, G. A. Heropoulos and B. R. Steele, 33rd International Conference on Coordination Chemistry, Florence, Italy, 1998.
"⁶Li and ⁷Li paramagnetic NMR shifts in aromatic hydrocarbon radical anion solutions."
16. C.G. Screttas and B.R. Steele, XIIIth FEChem Conference on Organometallic Chemistry, 1999, Lisbon, Portugal.
"Mixed main group metal alkyls and alkoxides in synthesis and catalysis."
17. B.R. Steele, G.A. Heropoulos and C.G. Screttas, XIIIth FEChem Conference on Organometallic Chemistry, 1999, Lisbon, Portugal.
"Synthesis and study of complexes with novel sterically demanding arenes"
18. B.R. Steele and C.G. Screttas, XIXth International Conference on Organometallic Chemistry, Shanghai, China, 2000,
"Sterically constrained anilines and phenols: application to homogeneous catalysis"
19. M. Micha-Screttas, G.A. Heropoulos, B.R. Steele and C.G. Screttas, XIXth International Conference on Organometallic Chemistry, Shanghai, China, 2000,
"Metallation of (methylaryl)phosphines and phosphine oxides and their transformation to useful ligands for transition metal catalysis"
20. M. Micha-Screttas, G.A. Heropoulos and B.R. Steele, XIXth International Conference on Organometallic Chemistry, Shanghai, China, 2000. "Effect of additives such as salts and co-solvent on the structure of alkali metal aromatic ketone radical anions in solution"

21. M. Micha-Screttas, C.G. Screttas, B. R. Steele and G. A. Heropoulos. 6th FIGIPS Meeting in Inorganic Chemistry, Barcelona, July 2001.
“Chemical and physical evidence for metal-metal interchange between lithium ⁶Li-alkoxyethoxide and dibutylmagnesium”
22. C. Arbez-Gindre, B. R. Steele, G. A. Heropoulos, C. G. Screttas, J.-E. Communal, M. in het Panhuis, W. Blau and I. Ledoux-Rak, . 6th FIGIPS Meeting in Inorganic Chemistry, Barcelona, July 2001.
“An organolithium route to triarylmethyl dyes bearing ferrocenyl or ferrocenylethenyl groups and their NLO properties”
23. B.R. Steele, M. Micha-Screttas and C.G. Screttas, XIVth FECHEM Conference on Organometallic Chemistry, Gdansk, Poland, September, 2001.
“Applications of novel sterically demanding aromatics in organometallic synthesis”
24. I.D. Kostas and B.R. Steele, XXth International Conference on Organometallic Chemistry, Corfu, Greece, July, 2002.
“New nitrogen and sulphur containing hemilabile phosphorus ligands. Application to transition metal homogeneous catalysis”
25. B.R. Steele, C.G. Screttas, M. Micha-Screttas, G.A. Heropoulos and I.D. Kostas, XXIIIrd Poland-German Colloquy on Organometallic Chemistry, Wierzba, Poland, April, 2003.
“Modification of reactivity of main group organometallics”
26. B.R. Steele, D.P. Catsoulacos, G.A. Heropoulos, M. Micha-Screttas and C.G. Screttas, XVth FECHEM Conference on Organometallic Chemistry, Zurich, Switzerland, August, 2003.
“Synthesis and characterisation of an imino-phosphine dendrimeric ligand and its application in the Heck reaction”
27. G.A. Heropoulos, C.G. Screttas, M. Micha-Screttas, D.P. Catsoulacos and B.R. Steele, XVth FECHEM Conference on Organometallic Chemistry, Zurich, Switzerland, August, 2003.
“Reductive lithiations in diethyl ether: preparation of benzylic organolithium reagents”
28. I.D. Kostas, B.R. Steele and K.A. Vallianatou, XVth FECHEM Conference on Organometallic Chemistry, Zurich, Switzerland, August, 2003.
“Homogeneous catalysis by new transition metal complexes with phosphorus ligands having additional potential donors”
29. D.P. Catsoulacos, B.R. Steele, G.A. Heropoulos, M. Micha-Screttas and C.G. Screttas, 3rd International Dendrimer Symposium, Berlin, Germany, September, 2003.
“An imino-phosphine dendrimeric ligand and its evaluation in the Heck reaction”

30. C. Villalonga-Barber, C. Kouzinou, M. Micha-Screttas, B.R. Steele and C.G. Screttas, 15th International Conference on Organic Synthesis, Nagoya, Japan, August 2004.
"Antioxidant stilbene derivatives and iron chelators"
31. C.G. Screttas, G.A. Heropoulos, B.R. Steele and M. Micha-Screttas, 15th International Conference on Organic Synthesis, Nagoya, Japan, August 2004.
"Reductive lithiation allylic phenylthioethers in diethyl ether: a remarkable solvent effect"
32. G.A. Heropoulos, B.R. Steele, I.D. Kostas, S. Georgakopoulos, M. Micha-Screttas and C.G. Screttas, COST D32 Workshop on Chemistry in High Energy Microenvironments, Alicante, Spain, July 8-9, 2004.
"Ultrasound assisted reduction of nitroaromatic molecules of high steric demand".
33. G.A. Heropoulos, S. Georgakopoulos, M. Micha-Screttas and B.R. Steele, COST D32, Working Group 6 Workshop, Torino, Italy, 18-19 February 2004
"High Intensity ultrasound assisted reactions of organic molecules"
34. V. Kovač, C. Villalonga-Barber, B.R. Steele, M. Micha-Screttas and C.G. Screttas, 8th FIGIPAS Meeting in Inorganic Chemistry, Athens, Greece, July 2005.
"Preparation and study of novel near-infrared dyes derived from ferrocene"
35. S. Georgakopoulos and B.R. Steele, 8th FIGIPAS Meeting in Inorganic Chemistry, Athens, Greece, July 2005.
"Sterically demanding chelating Schiff base ligands"
36. C. Villalonga-Barber, B.R. Steele, M. Micha-Screttas and C.G. Screttas, 14th European Symposium on Organic Chemistry, Helsinki, Finland, July 2005.
"New organometallic chromophores as potential near-infrared (NIR) dyes"
37. C.G. Screttas, M. Micha-Screttas, G.A. Heropoulos and B.R. Steele, 14th European Symposium on Organic Chemistry, Helsinki, Finland, July 2005.
"Iminochlorides as useful synthons"
38. C. Villalonga-Barber, V. Kovač, B.R. Steele, M. Micha-Screttas, C.G. Screttas, XVIth FECHM Conference on Organometallic Chemistry, Budapest, Hungary, September, 2005.
"Novel Ferrocenyl Near-Infrared Dyes"
39. B.R. Steele, I.D. Kostas, S.V. Amosova, A.V. Martynov, N.A. Makhaeva, XVIth FECHM Conference on Organometallic Chemistry, Budapest, Hungary, September, 2005.
"Organochalcogenyl substituted Schiff base ligands and their application in the Suzuki reaction"
40. E.S. Katsanou, N. Assimomitis, C. Villalonga-Barber, G. Lamprinidis, A.K. Meligova, E. Mikros, B.R. Steele, M. Micha-Screttas, C.G. Screttas, D. Papahatjis, M.N. Alexis, 6th Athens Congress on Women's Health and Disease, Athens, September 23-25, 2005.

"New paradigms of estrogen receptor modulators"

41. M. Micha-Screttas, C. Villalonga, A. Meligova, B.R. Steele, C.E. Kouzinou, C.G. Screttas, E.S. Katsanou, M.N. Alexis, 16th International Conference on Organic Synthesis, Merida, Mexico, June 2006.
"Synthesis of neuroprotective hydroxy-stilbenoid analogs and evaluation of their activities against breast and endometrial cancer cells"
42. C.G. Screttas, B.R. Steele, S. Georgakopoulos, M. Micha-Screttas, 16th International Conference on Organic Synthesis, Merida, Mexico, June 2006.
"Synthetic routes to new sterically demanding aromatic amines"
43. G.C. Papavassiliou, G.C. Anyfantis, B.R. Steele, A. Terzis, C.P. Raptopoulou, G. Tatakis, G. Chaidogiannos, N. Glezos, Y.F. Weng, H. Yoshino, K. Murata, International Conference on the Science and Technology of Synthetic Metals, Dublin, July 2-7, 2006.
"Single-component nickel-1,2-dithiolene complexes; candidate semiconductors for field-effect transistors."
44. B.R. Steele, S. Georgakopoulos, I.D. Kostas, C.G. Screttas, XXIInd International Conference on Organometallic Chemistry, Zaragoza, Spain, July, 2006.
"The preparation of bulky aromatic amines by superbases promoted side-chain ethylation : applications and properties."
45. K. Gardikis, T. Felekis, B.R. Steele, P. Zoumboulakis, C.G. Screttas, C. Demetzos, M. Micha-Screttas, International Dendrimer Symposium 5, Toulouse, France, August 2007.
"Design and synthesis of new hydroxy-terminated dendrimers. Initial studies of the encapsulation mechanism using molecular modelling techniques"
46. C. Patteux, T.K. Olszewski, B.R. Steele, G.A. Heropoulos, M. Maria-Screttas, International Dendrimer Symposium 5, Toulouse, France, August 2007.
"Dendrimer modified solid phase supports"
47. T.K. Olszewski, C. Patteux, B.R. Steele, G.A. Heropoulos, M. Maria-Screttas, International Dendrimer Symposium 5, Toulouse, France, August 2007.
"Solution phase synthesis of a polyether dendron and its immobilisation on a solid-phase support"
48. K. Gardikis, T. Felekis, B.R. Steele, P. Zoumboulakis, C.G. Screttas, C. Demetzos, M. Micha-Screttas, International Conference on Nanomedicine, Chalkidiki, Greece, September 2007.
"Design and synthesis of new hydroxy-terminated dendrimers. Initial studies of the encapsulation mechanism using molecular modelling techniques"
49. B.R. Steele, S. Georgakopoulos, C. Villalonga-Barber, K.A. Vallianatou, G.A. Heropoulos, M. Micha-Screttas, International Dendrimer Symposium 6, Stockholm, Sweden, June 2009.
"Synthetic approaches towards dendrimeric organometallic near-infrared dyes"

50. G.A. Heropoulos, M. Sleiman, M. Micha-Screttas, B.R. Steele, T. Calogeropoulou, International Dendrimer Symposium 6, Stockholm, Sweden, June 2009.
"New "Click Chemistry" routes to polyhydroxy dendrons"
51. M. Micha-Screttas, K. Gardikis, S. Hatziantoniou, C. G. Screttas, B. R. Steele, M. Ionov, D. Wrobel, M. Bryszewska, M. Signorelli, D. Fessas, C. Demetzos, International Dendrimer Symposium 6, Stockholm, Sweden, June 2009.
"Liposomal *locked in* dendrimer technology in biomedical applications"
52. R. Csonka, C. Villalonga-Barber, B. R. Steele, 10th International Symposium on Applied Bioinorganic Chemistry, Debrecen, Hungary, September 2009.
"New glyoxylato-aryylhydrazones as metal chelators and ascorbate oxidation inhibitors"
53. R. Csonka, B. R. Steele, C. Villalonga-Barber, C. G. Screttas, 11th Frank Warren Conference, Pietermaritzburg, South Africa, January 2010.
"New glyoxylato-aryylhydrazones as metal chelators and ascorbate oxidation inhibitors"
54. M. Bucos, C. Villalonga-Barber, M. Micha-Screttas, B.R. Steele, C.G. Screttas, G.A. Heropoulos, 11th Frank Warren Conference, Pietermaritzburg, South Africa, January 2010.
"Passive heating element and salt effect on simple microwave assisted chlorination reactions"

Other Meetings

55. B.R. Steele and C.G. Screttas, 13th Panhellenic Chemistry Conference, Athens, 1991.
"Addition of activated alkali metal allyls to ethylene. Application to the chemistry of α -pinene"
56. B.R. Steele, G.A. Heropoulos and C.G. Screttas, 17th Panhellenic Chemistry Conference, Patras, 1996.
"The cleavage of tetrahydrofuran by the radical anion of sodium naphthalene: catalysis by magnesium chloride"
57. G.A. Heropoulos, B.R. Steele and C.G. Screttas, 17th Panhellenic Chemistry Conference, Patras, 1996.
"A method for the determination of weak binding affinities of phosphorus (III or V) compounds with alkali metals"
58. B.R. Steele, J. Andrieu and C.G. Screttas, 2nd Symposium of the Institute of Physicochemistry, Democritos, Athens, 1997.
"New methodology for the synthesis of *N,O*-modified phosphines with a labile coordinating bond with copper and palladium and their possible application in homogeneous catalysis"
59. I.D. Kostas and B.R. Steele, 19th Panhellenic Chemistry Conference, University of Crete, 2002.

“Homogeneous catalysis with hemi-labile ligand-containing transition metal complexes

60. B.R. Steele, M. Micha-Screttas and C.G. Screttas, 19th Panhellenic Chemistry Conference, University of Crete, 2002.
“Synthesis of new aromatic compounds with large stereochemical requirements. Properties and applications”
61. C. Villalonga-Barber, B.R. Steele, M. Micha-Screttas and K. Kouzinos, 11th Panhellenic Pharmacochimistry Symposium, Patras, 2004.
“Antioxidant stilbene derivatives and iron chelators”
62. C. Villalonga-Barber, B.R. Steele, M. Micha-Screttas and C.G. Screttas, 1st Hellenic Symposium on Organic Synthesis, University of Athens, 2004
“New organometallic chromophores as potential near-infrared (NIR) dyes”
63. C. Villalonga-Barber, C. Kouzinos, B.R. Steele and M. Micha-Screttas, 1st Hellenic Symposium on Organic Synthesis, University of Athens, 2004
“Antioxidant stilbene derivatives and iron chelators”
64. S. Georgakopoulos, G.A. Heropoulos and B.R. Steele, 1st Hellenic Symposium on Organic Synthesis, University of Athens, 2004
“Synthesis of nitrogen-containing aromatic compounds with large steric demands”
65. C. Villalonga-Barber, B.R. Steele, M. Micha-Screttas, C.G. Screttas, E.G. Katsanou, M.N. Alexis, 19th Panhellenic Chemistry Conference, Ioannina, 2005.
“New substituted stilbenoid derivatives with neuroprotective activity”
66. S. Georgakopoulos, C.G. Screttas, G.A. Heropoulos, B. R. Steele, 19th Panhellenic Chemistry Conference, Ioannina, 2005.
“Synthesis of novel Schiff bases with large stereochemical demands and their complexes with platinum”
67. V. Kovač, C. Villalonga-Barber, B.R. Steele, M. Micha-Screttas, C.G. Screttas, 19th Panhellenic Chemistry Conference, Ioannina, 2005.
“Synthesis of ne substituted dendrimers with near infrared absorbing chromophores”
68. E.S. Katsanou, A. Meligova, C. Villalonga-Barber, M. Micha-Screttas, B.R. Steele, C.E. Kouzinos, C.G. Screttas, M.N. Alexis, 57th Panhellenic Biochemistry and Molecular Biology, Athens, 2005
“Oxidative stress induced cell death of hippocampal neurons: Effects of steroids and novel resveratrol analogues”
69. I.D. Kostas, K.A. Vallianatou, B.R. Steele, K. Hatzia Apostolou, D. Simeonidis, A. Grigoropoulos, P. Kyritsis, D. Kovala-Demertzi, S.V. Amosova, A. Börner, J. Holz, J. Vohlidal, G.S. Hanan, 9th Panhellenic Catalysis Symposium, Lefkada, 2006.
“Homogeneous catalysis with transition metal complexes containing novel ligands”

70. S. Georgakopoulos, C.G. Screttas, B. R. Steele and M. Micha-Screttas, 2nd Hellenic Symposium on Organic Synthesis, University of Athens, 2007
“Synthetic routes to new sterically demanding aromatic amines”
71. G. A. Heropoulos, C.G. Screttas and B. R. Steele, 2nd Hellenic Symposium on Organic Synthesis, University of Athens, 2007
“Diverse chemoselectivities in ultrasound and microwave assisted simple bromination reactions”
72. K. Gardikis, M. Micha-Screttas, B. R. Steele, T. Felekis and C.G. Screttas, 2nd Hellenic Symposium on Organic Synthesis, University of Athens, 2007
“Design and synthesis of novel hydroxy-dendrimers”
73. C. Patteux, M. Micha-Screttas, and B. R. Steele, 2nd Hellenic Symposium on Organic Synthesis, University of Athens, 2007
“Solid phase synthesis of dendrimers and preparation of dendrimer modified solid phase supports”
74. F. Wiesbrock, C. Patteux, T. K. Olszewski, A. Blanrue, G. A. Heropoulos, B. R. Steele, M. Micha-Screttas, T. Calogeropoulou, 13th Hellenic Symposium on Medicinal Chemistry, Athens.
“Synthesis and scale-up of a 1st generation tetraester-dendrimer utilizing microwave irradiation and/or ultrasound”
75. N. Avlonitis, A. Blanrue, A. Pantzou, K. Prousis, P. Milnes, B. R. Steele, M. Micha-Screttas, G. A. Heropoulos, T. Calogeropoulou, 3rd Hellenic Symposium on Organic Synthesis, Athens, Oct. 2009.
“Development of new methodology for the generation of libraries of bioactive phosphorus-containing compounds on solid support”
76. F. J. Andreadaki, I. D. Kostas, B. R. Steele, V. Zoumpourlis, 3rd Hellenic Symposium on Organic Synthesis, Athens, Oct. 2009.
“Antiproliferative activity of palladium complexes with chalcogen-containing Schiff-base ligands”
77. S. Georgakopoulos, C. Villalonga-Barber, K. A. Vallianatou, G. Antonopoulou, G. A. Heropoulos, M. Micha-Screttas, B. R. Steele, 3rd Hellenic Symposium on Organic Synthesis, Athens, Oct. 2009.
“Synthetic approaches towards dendrimeric organometallic near-infrared dyes”
78. R. Csonka, B. R. Steele, C. Villalonga-Barber, C. G. Screttas, 3rd Hellenic Symposium on Organic Synthesis, Athens, Oct. 2009.
“New glyoxylato-roylhydrazones as metal chelators and ascorbate oxidation inhibitors”
79. M. Micha-Screttas, M. Sleiman, B. R. Steele, G. A. Heropoulos, T. Calogeropoulou, 3rd Hellenic Symposium on Organic Synthesis, Athens, Oct. 2009.
“New “click chemistry” routes to polyhydroxy dendrons”

80. K. Gardikis, S. Hatziantoniou, C. G. Screttas, B. R. Steele, C. Arbez-Gindre, M. Ionov, D. Wrobel, M. Bryszewska, M. Signorelli, D. Fessas, M. Micha-Screttas, C. Demetzos, 3rd Hellenic Symposium on Organic Synthesis, Athens, Oct. 2009.
"Liposomal *locked in* dendrimer technology in biomedical applications"
81. M. Bucos, C. Villalonga-Barber, M. Micha-Screttas, B. R. Steele, C. G. Screttas, G. A. Heropoulos, 3rd Hellenic Symposium on Organic Synthesis, Athens, Oct. 2009.
"Solid additive effects on microwave assisted reactions"