



## Dr Muriel DURANDETTI

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### Actual position

**Associate professor of Chemistry**

University of Rouen, IUT a C

### Education

06/1991 : **Master of Analytical Chemistry**, University of Paris VI (Pierre et Marie Curie)

11/1994 : **PhD in Chemistry**, University of Paris VI (Pierre et Marie Curie) (Prof. J. Périchon)

06/2005 : **Habilitation à Diriger des Recherches**, University of Paris XII (Val de Marne)

### Professional Appointments

1991-1994, PhD in Chemistry "Nickel-complex catalysis in the electrochemical cross-coupling between aromatic halides and activated alkyl halides, using the sacrificial anode process", L.E.C.S.O. (Pr J. Périchon).

1994-1998, **Assistant professor**, University of Paris XII (Val de Marne) (Pr J. Périchon)

1998-2005, **Associate professor**, University of Paris XII (Val de Marne) (Pr J. Périchon)

2005-present, **Associate professor**, University of Rouen (Pr J. Maddaluno)

**Research and Doctoral Supervision Award** in 2004-2012. **Scientific Excellence Award** in 2012-present.

### Research interests

Topic 1 : Electrochemical cross-coupling reactions between aromatic halides and activated alkyl halides, using the sacrificial anode process.

Topic 2 : Cyclisation by carbometallation (lithium, magnesium, nickel), in combination with DFT calculations (in collaboration with Dr. Catherine Fressigné, Aarhus University).

Topic 3 : Silylated heterocycles synthesis.

### Publications and patents

#### Publications

- 1 - "ANOMALOUS  $\alpha$ -C...". M. Durandetti, S. S. B. J. Y. N. c, J. P. c. *Synth. Commun.*, **1994**, 2, 145-151
- 2 - "Nickel-catalyzed cross-coupling reactions between aromatic halides and activated alkyl halides, using the sacrificial anode process". M. Durandetti, S. S. B. J. Y. N. c, J. P. c. *Novel Trends in Electro-organic Synthesis*, S. T. , 209-212, **1995**
- 3 - "Nickel-catalyzed electrochemical cross-coupling reactions between aromatic halides and activated alkyl halides, using the sacrificial anode process". M. Durandetti, J. Y. N. c, J. P. c. *J. Org. Chem.*, **1996**, 61, 1748-1755
- 4 - "Iridium-catalyzed electrochemical cross-coupling reactions between aromatic halides and activated alkyl halides, using the sacrificial anode process". M. Durandetti, M. Durandetti, J. P. c. *New J. Chem.*, **1996**, 20, 659-667
- 5 - "Nickel-catalyzed electrochemical cross-coupling reactions between aromatic halides and activated alkyl halides, using the sacrificial anode process". R. A. c. a., C. Ca., E. Labb., M. Durandetti, M. Durandetti, J. Y. N. c. *J. Electroanal. Chem.*, **1996**, 412, 85-93
- 6 - "A nickel-catalyzed electrochemical cross-coupling reaction between aromatic halides and activated alkyl halides, using the sacrificial anode process". M. Durandetti, J. P. c, J. Y. N. c. *J. Org. Chem.*, **1997**, 62, 7914-7915
- 7 - "Nickel-catalyzed electrochemical cross-coupling reactions between aromatic halides and activated alkyl halides, using the sacrificial anode process". M. Durandetti, J. P. c, J. Y. N. c. *Tetrahedron Lett.*, **1997**, 38, 8683-8686
- 8 - "Silylated heterocycles synthesis". M. Durandetti, S. C. G., J. P. c, J. Y. N. c. *Novel Trends in Electro-organic Synthesis*, S. T. , 387-390, **1998**
- 9 - "Nickel-catalyzed electrochemical cross-coupling reactions between aromatic halides and activated alkyl halides, using the sacrificial anode process". M. Durandetti, J. P. c, J. Y. N. c. *Tetrahedron Lett.*, **1999**, 40, 9009-9013
- 10 - "Nickel-catalyzed electrochemical cross-coupling reactions between aromatic halides and activated alkyl halides, using the sacrificial anode process". M. Durandetti, J. P. c, J.-Y. N. c. *J. Org. Chem.*, **2000**, 65, 4575-4583
- 11 - "A nickel-catalyzed electrochemical cross-coupling reaction between aromatic halides and activated alkyl halides, using the sacrificial anode process". M. Durandetti, J. Y. N. c, J. P. c. *Org. Lett.*, **2001**, 3, 2073-2076

- 12 - "Nickel-Catalyzed Electrochemical Couplings of Aryl, Heteroaryl or vinyl Halides with Activated Alkyl Halides: Synthetic and Stereochemical Aspects". M. Durandetti, J.-Y. Nédélec, J. Périchon. *Proceedings - Electrochemical Society*, 89-92, **2001**
- 13 - "Electrochemical Synthesis of  $\alpha$ -Halogenoesters". KWR. Fa, M. Na, L, M. Durandetti, JY. Nédélec. *J. Org. Chem.*, **2002**, 67, 1838-1842
- 14 - "Iron-Catalyzed Alkylation of Ketones". M. Durandetti, C. M, J. Périchon. *Org. Lett.*, **2003**, 5, 317-320
- 15 - "Iron-Catalyzed Alkylation of Ketones". M. Durandetti, C. M, J. Périchon. *J. Org. Chem.*, **2003**, 68, 3121-3124

**16 - On invitation by Prof. Erick Carreira, publication in a Special Topics on Nickel: "Nickel-Catalyzed Electrochemical Couplings of Aryl, Heteroaryl or vinyl Halides with Activated Alkyl Halides: Synthetic and Stereochemical Aspects".** M. Durandetti, J. Périchon. *Synthesis*, **2004**, 3079-3083

**17 - "Mechanistic investigation of the iron-mediated electrochemical formation of  $\beta$ -hydroxyesters from  $\alpha$ -haloesters and carbonyl compounds".** O. Buriez, M. Durandetti, J. Périchon. *J. Electro. Anal. Chem.*, **2005**, 578, 63-70

**18 - "Iron Catalyzed Reformatsky Type Reactions".** M. Durandetti, J. Périchon. *Synthesis*, **2006**, 1542-1548

**19 - "Iron-Catalyzed Allylation of Ketones".** M. Durandetti, J. Périchon. *Tetrahedron Lett.*, **2006**, 47, 6255-6258

**20 - "Ni-Catalyzed Activation of  $\alpha$ -Chloroesters: A simple Method for the Synthesis of  $\alpha$ -Arylesters and  $\beta$ -Hydroxy-esters".** M. Durandetti, C. Gosmini, J. Périchon. *Tetrahedron*, **2007**, 63, 1146-1153

**21 - "Formation and electrochemical behavior characterizations of dibromo 2,2'-bipyridine manganese (II) systems in DMF solution".** B. Laik, M. Durandetti, J. Périchon. *J. Electro. Anal. Chem.*, **2007**, 602, 275-279

**22 - "Intramolecular carbolithiation of alkynes: anti selectivity".** C. Fressigné, AL. Girard, M. Durandetti, J. Maddaluno. *Angew. Chem. Int. Ed.*, **2008**, 47, 891-893; *Angew. Chem.*, **2008**, 120, 905-907

**23 - "A case of anti carbolithiation of alkyne resulting from a lithium intramolecular coordination".** C. Fressigné, AL. Girard, M. Durandetti, J. Maddaluno. *Chem. Eur. J.*, **2008**, 14, 5159-5167

**24 - "Is the elimination of lithium alkoxide easier from a vinylolithium or from an alkylolithium? A DFT study of the aromatization of 3-vinylidene-2,3-dihydrobenzofurans to benzofurans".** C. Fressigné, AL. Girard, M. Durandetti, J. Maddaluno. *Eur. J. Org. Chem.*, **2009**, 721-729

**25 - "Synthesis of functionalized 2-Arylpyridine from 2-halopyridines and various aryl halides via a nickel catalysis".** C. Gosmini, C. Bassene-Ernst, M. Durandetti. *Tetrahedron*, **2009**, 65, 6141-6146

**26 - "Heterocyclization by Catalytic Carbonickelation of Alkynes: a Domino Sequence Involving Vinylnickels".** M. Durandetti, L. Hardou, M. Clément, J. Maddaluno. *Chem. Commun.*, **2009**, 4753-4755

**27 - "Synthetic applications of the nickel-catalyzed cyclisation of alkynes combined with addition reactions in a domino process".** M. Durandetti, L. Hardou, R. Lhermet, M. Rouen, J. Maddaluno. *Chem. Eur. J.*, **2011**, 17, 12773-12783

**28 - "Intramolecular Sila-Matteson Rearrangement: a General Access to Silylated Heterocycles".** C. François, T. Boddaert, M. Durandetti, O. Querolle, L. Van Hijfte, L. Meerpoel, P. Angibaud, J. Maddaluno. *Org. Lett.*, **2012**, 14, 2074-2077

**29 - "Influence of the acetylenic substituent on the intramolecular carbolithiation of alkynes".** AL. Girard, R. Lhermet, C. Fressigné, M. Durandetti, J. Maddaluno. *Eur. J. Org. Chem.*, **2012**, 2895-2905. **Cover picture**

**30 - On invitation by Prof. Ilan Marek, publication in a Thematic Series on Carbometallation Chemistry "Intramolecular Carbonickelation of Alkenes".** R. Lhermet, M. Durandetti, J. Maddaluno. *Beilstein J. Org. Chem.*, **2013**, 9, 710-716

**31 - "Influence of the acetylenic substituent on the intramolecular carbolithiation of alkynes: a DFT theoretical study".** C. Fressigné, R. Lhermet, AL. Girard, M. Durandetti, J. Maddaluno. *J. Org. Chem.*, **2013**, 78, 9659-9669

**32 - "Anionic access to silylated and germylated binuclear heterocycles".** T. Boddaert, C. François, L. Mistico, O. Querolle, L. Meerpoel, P. Angibaud, M. Durandetti, J. Maddaluno. *Chem. Eur. J.*, **2014**, 20, 10131-10139

**33 - "Carbolithiation of Chloro-substituted alkynes: a New Access to Vinyl Carbenoids".** R. Lhermet, M. Ahmad, C. Fressigné, B. Silvi, M. Durandetti, J. Maddaluno. *Chem. Eur. J.*, **2014**, 20, 10249-10254. **Highlighted** in Synfacts, category **Metal-Mediated Synthesis**, *Synfacts*, **2014**, 10, 1192 (DOI: 10.1055/s-0034-1379345).

**34 - "Intramolecular carbolithiation of heterosubstituted alkynes: experimental and theoretical Study".** R. Lhermet, M. Ahmad, C. Hauduc, C. Fressigné, M. Durandetti, J. Maddaluno. *Chem. Eur. J.*, **2015**, 21, 8105-8111. **Inside back cover picture. Highlighted** in Synfacts, category **Metal-Mediated Synthesis**, *Synfacts*, **2015**, 11, 0756 (DOI: 10.1055/s-0034-1380918).

## Books

**1 - Encyclopedia of Reagents for Organic Synthesis, John Wiley & Sons, Ltd.** Contribution for "**Nickel Bromide Bipyridine**". M. Durandetti, J. Maddaluno. **2014** (DOI: 10.1002/047084289X.rm01736)

## Patents

**1 - "Method for the synthesis of  $\alpha$ -halogenoesters".** M. Durandetti, J. Périchon. CNRS patent (FR 1997-7908, **1997**, *Chem. Abstr.* **1997**, 130, 188492, WO 1998-FR1336, **1998**, *Chem. Abstr.* **1998**, 130, 188492)

**2 - "Process for the synthesis of  $\alpha$ -halogenoesters".** M. Durandetti, J. Périchon. RHODIA patent (FR 2004-7230, 2004; *Chem. Abstr.* **2006**, 144, 108097)