BIBLIOMETRIC INFORMATION

R. DEMADRILLE

(December 2025)

SCIENTIFIC CONTRIBUTIONS

(Certified source: Scopus, WoS all databases, other: Google Scholar)

2 book chapters, 7 proceedings, 2 Editorials, and **104 publications** including **3 reviews**.

8 granted patents, **38 invited and keynotes lectures** in international conferences, workshops and schools, **1 plenary lecture** and **8 invited lectures** in national conferences, **33 contributed talks** in national, international conferences and workshops.

Scopus data: H-Factor: **36**, Total citations > **4500**, average citations per article > **40**

Web of Science: H-Factor: **36**, Total citations > **4600**, average citations per article > **41**

Google Scholar: H-Factor: **36**, Total of citations> **5500**.

OVERALL BIBLIOMETRIC INFORMATION

• Number of peer-reviewed **Articles**	104
• Number of **proceedings**	7
• Number of Book **Chapters**	2
• Number of **Editorials**	2
• Number of **Patents**	8
• Number of **Total Citations (Scopus)**	4530
• Number of **Citations without Self-citations (Scopus)**	4290
• Number of **Total Citations (Web of Science, all databases)**	4650
• Number of **Citations without Self-citations (Web of Science, all databases)**	4400
• Number of **Total Citations (Google Scholar)**	5560
• **H-index** (using **Scopus**)	36
• **H-index** (using **Web of Science, all databases**)	36
• **H-index (**using **Google Scholar)**	40

PUBLICATIONS

115) A. Monmagnon, J. El Harfi, R. Demadrille, S. Rolere*
"Exploring the Potential of Hemp Oil for the Development of Sustainable Flexible Non-isocyanate Polyurethane Foams", *ACS Sustainable Chemistry & Engineering*, **2025**, ASAP (ACS).

114) L. Rivet, A. Curé, C. Jutard, S. Fauvel, R. Demadrille, A. J. Riquelme and C. Aumaître*
"Synthesis and characterization of NFA-based polymers for solar cells with improved thermal stability", *J. Mater. Chem. C*, **2025**, 13, 21357-21366, (RSC).

113) D. Mirani,* A. J. Riquelme, S. Fauvel, C. Aumaître, P. Maldivi, J. Pécaut, R. Demadrille*, "Panchromatic photochromic push-pull dyes featuring a ferrocene donor group", *Materials Chemistry Frontiers*, **2025**, 9, 2770-2783. (RSC)

112) W. Luo, J. M. Andrés Castán, D. Mirani, A. J. Riquelme, A. K. Sachan, O. Kurman, S. Kim, F. Faini, P. Zimmermann, A. Hinderhofer, Y. Patel, A. T. Frei, J.-E. Moser, D. Ramirez, F. Schreiber, P. Maldivi, J-Y. Seo, W. Tress, G.a Grancini, R. Demadrille, Jovana V. Milić*, "Photochromic Control in Hybrid Perovskite Photovoltaics", *Adv. Mater.* **2025**, 2420143 (Wiley)

111) J. Liotier*, A. J. Riquelme, V. Mwalukuku, Q. Huaulmé, Y. Kervella, R. Demadrille*, C. Aumaître*, "Data-driven modelling for electrolyte optimisation in dye-sensitised solar cells and photochromic solar cells", *Materials Horizons*, **2025**, 12, 3803-3814 Article. (RSC)

110) J. Castillo-Seoane, L. Contreras-Bernal*, A. J. Riquelme*, S. Fauvel, Y. Kervella, J. Gil-Rostra, G. Lozano, A. Barranco, R. Demadrille, J. R. Sánchez-Valencia, A. Borrás, Multidimensional nanoarchitectures for improved indoor light harvesting in dye-sensitized solar cells, *Materials Today Energy*, 49, **2025**, 101851. (Elsevier)

109) A. Monmagnon, PA. Bayle, F. Flaig, C. Carpe, J. El Harfi, R. Demadrille, S. Rolere*, "Insights on the polymerization kinetics of non-isocyanate polyurethanes (NIPU) using in situ NMR spectroscopy" *Polymer Testing*, 140, **2024**, 108615 (Elsevier)

108) P. Sánchez-Fernández, C. A. Aranda, R. Escalante, A. J. Riquelme, **R. Demadrille**, P. Pistor, G. Oskam, J. A. Anta* "Competition between Transport and Recombination in Dye Solar Cells at Low Light Intensity", *Sol. RRL* **2024**, 8, 2400149 (Wiley)

107) Y.A. Quiroz Avalos, Q. Eynaud, P. Perkhun, A. Rivaton, W. Köntges, R.R. Schröder, T. Koganezawa, N. Yoshimoto, A. Kumar Bharwal, D. Duché, C. M. Ruiz, O. Margeat, C. Aumaître, **R. Demadrille***, C. Videlot-Ackermann*, J. Ackermann*. "Insights into the relationship between molecular and order-dependent photostability of ITIC derivatives for the production of photochemically stable blends" *J. Mater. Chem. C*, **2024**, 12, 4130-4141. (RSC)

106) E. Aktas, T. H. Le, M. Frigoli, G. Li, H. Köbler, J. Liotier, A. J. Riquelme, A. Abate, **R. Demadrille**,* E. Palomares, "Triisopropylsilylethynyl-functionalized Anthracene-based hole transport materials for efficient hybrid Lead halide perovskite solar cells", *Chemistry of Materials*, **2023**, 35, 21, 9378-9389 (ACS)

105) O. Bardagot, Y. Kervella, A. A. Medjahed, S. Pouget, T. Nunes Domschke, A. Carella, C. Aumaître, P. Leveque, **R. Demadrille*** "Effect of Benzothiadiazole Spacer on Transport Properties and N-doping of Naphthalene-diimide-based Copolymers" *Journal of Materials Chemistry C*, **2023**, 11, 14108.

104) C. Bourguignon, A. Moinel, A. Huet, Y. Kervella, C. D. Windle, J. Massin, V. Artero, M. Chavarot-Kerlidou, **R. Demadrille*** "Photoelectrochemical Hydrogen production by a Cobalt tetrapyridyl catalyst using push-pull dye-sensitized NiO photocathode" *Advanced Energy & Sustainability Research*, **2023**, 4, 2300095 (Wiley).

103) S. Fauvel, A. J. Riquelme, J-M. Andrés Castán, V. M. Mwalukuku, Y. Kervella, V. K. Challuri, F. Sauvage, S. Narbey, P. Maldivi, C. Aumaître, **R. Demadrille**.* "Push-pull photochromic dyes for semi-transparent solar cells with light-adjustable optical properties and high color-rendering index" *Chemical Science*, **2023**, 14, 8497-8506. (RSC)

102) Y. Kervella, J.M. Andrés Castán, Y. A. Avalos-Quiroz, A. Khodr, Q. Eynaud, T. Koganezawa, N. Yoshimoto, O. Margeat, A. Rivaton, A. J. Riquelme, V. M. Mwalukuku, J. Pécaut, B. Grévin, C. Videlot-Ackermann, J. Ackermann, **R. Demadrille**, C Aumaître. "Star-shape non-fullerene acceptor featuring an aza-triangulene core for organic solar cells", *Journal of Materials Chemistry C*, **2023**, 11, 8161-8169. (RSC)

101) VM. Mwalukuku, J. Liotier, AJ. Riquelme, Y. Kervella, Q. Huaulme, A. Haurez, S. Narbey, JA. Anta, **R. Demadrille*** "Strategies to Improve the Photochromic Properties and Photovoltaic Performances of Naphthopyran Dyes in Dye-Sensitized Solar Cells", *Advanced Energy Materials*, **2023**, 2203651 (Wiley)

100) CA. Gonzalez-Flores, D. Pourjafari, R. Escalante, EJ. Canto-Aguilar, AV. Poot, JM. Andres Castan, Y. Kervella, **R. Demadrille**, AJ. Riquelme, JA. Anta, G. Oskam, "Influence of Redox Couple on the Performance of ZnO Dye Solar Cells and Minimodules with Benzothiadiazole-Based Photosensitizers", *ACS Appl. Energy Mater*. **2022**, 5, 11, 14092–14106. (ACS)

99) J.M. Andres Castan, V.M. Mwalukuku, AJ. Riquelme, J. Liotier, Q. Huaulme, JA. Anta, P. Maldivi, **R. Demadrille***, Photochromic spiro-indoline naphthoxazines and naphthopyrans in dye-sensitized solar cells, *Mater. Chem. Front*., **2022**,6, 2994-3005. (RSC)

98) A. Moinel, M. Brochnow, C. Aumaitre, E. Giannoudis, J. Fize, C. Saint-Pierre, J. Pecaut, P. Maldivi, V. Artero, **R. Demadrille***, M. Chavarot-Kerlidou, "Push-pull organic dyes and dye-catalyst assembly featuring a benzothiadiazole unit for photoelectrochemical hydrogen production" *Sustainable Energy & Fuels*, **2022**, 6, 3565-3572. (RSC)

97) A. Schultheiss, A. Sekkat, VH. Nguyen, A. Carella, A. Benayad, A. Revaux, **R. Demadrille**, D. Munoz-Rojas, JP. Simonato, "High performance encapsulation of transparent conductive polymers by spatial atomic layer deposition" *Synthetic Metals*, **2022**, 284, 116995. (Elsevier)

96) EJ. Canto-Aguilar, CA. Gonzalez-Flores, D. Peralta-Dominguez, JM. Andres-Castan, **R. Demadrille**, M. Rodriguez-Perez, G. Oskam "Electrodeposition of Simonkolleite as a Low-Temperature Route to Crystalline ZnO Films for Dye-Sensitized Solar Cells" **2022**, *J. Electrochem. Soc*., 169, 042504. (IOPscience)

95) V. Aubriet, K. Courouble, O. Bardagot, **R. Demadrille**, L. Borowik, B. Grevin, "Hidden surface photovoltages revealed by pump probe KPFM" *Nanotechnology*, **2022**, 33 22540. (IOPscience)

94) J. Liotier, V.M. Mwalukuku, S. Fauvel, A.J. Riquelme, J.A. Anta, P. Maldivi**, R. Demadrille**, "Photochromic Naphthopyran Dyes Incorporating a Benzene, Thiophene, or Furan Spacer: Effect on Photochromic, Optoelectronic, and Photovoltaic Properties in Dye-Sensitized Solar Cells" *Solar RRL*, **2021**, 6, 2100929. (Wiley)

93) A. Schultheiss, A. Revaux, A. Carella, M. Brinkmann, H. Zeng, R. Demadrille, JP. Simonato, "Electrical and mechanical properties of intrinsically flexible and stretchable PEDOT polymers for thermotherapy", *ACS Appl. Polym. Mater.*, **2021**, 10.1021/acsapm.1c01203. (ACS)

92) A. J. Riquelme, V. M. Mwalukuku, P. Sánchez-Fernández, J. Liotier, R. Escalante, G. Oskam, **R. Demadrille**, J. A. Anta, "Characterization of Photochromic Dye Solar Cells Using Small-Signal Perturbation Techniques*", ACS Appl. Energy Mater*. **2021**, DOI 10.1021/acsaem.1c01204 (ACS)

91) Y A. Avalos-Quiroz, O. Bardagot, Y. Kervella, C. Aumaître, L. Cabau, A. Rivaton, O. Margeat, C. Videlot-Ackermann, U. Vongsaysy, J. Ackermann, **R. Demadrille**, "Non-Fullerene Acceptors with an Extended π-Conjugated Core: Third Components in Ternary Blends for High-Efficiency, Post-Treatment-Free Organic Solar Cells" *ChemSusChem*, 14, 17, 3502-3510, **2021**, (Wiley)

90) O.Bardagot, C.Aumaitre, A.Monmagnon, J.Pecaut, PA.Bayle, **R. Demadrille**, "Revisiting doping mechanisms of n-type organic materials with N-DMBI for thermoelectric applications: Photo-activation, thermal activation, and air stability", *Appl. Phys. Lett*., 118, 20, 203904, **2021**, (AIP)

89) Y. Vaynzof, **R. Demadrille**, "Editors' choice collection on organic photovoltaics: back in the game", *J. Mater. Chem. C,* **2021**, 9 (4) ,1124-1125 Editorial (RSC)

88) Y. Vaynzof, R. Demadrille, "Editors' choice collection on organic photovoltaics: back in the game", *Mater. Advances* **2021** (4) , 1111-1112 Editorial (RSC)

87) M.Godfroy, J.Liotier, VM. Mwalukuku, D.Joly, Q.Huaulmé, L.Cabau, C.Aumaitre, Y. Kervella, S.Narbey, F.Oswald, E.Palomares, CAG. Flores, G. Oskam, **R. Demadrille**, "Benzothiadiazole-based photosensitizers for efficient and stable dye-sensitized solar cells and 8.7% efficiency semi-transparent mini-modules". *Sustainable Energy Fuels*, **2021**, 5, 144-153, (RSC)

86) A. Schultheiss, A.Carella, S.Pouget, J.Faure-Vincent, **R. Demadrille**, A.Revaux, JP. Simonato, "Water Content Control during Solution-Based Polymerization: A Key to Reach Extremely High Conductivity in PEDOT Thin Films", *J. Mater. Chem. C,* **2020**, 8, 17254-17260 (RSC)

85) A. Schultheiss, M. Gueye, A. Carella, A. Benayad, S.Pouget, J. Faure-Vincent, **R. Demadrille**, A. Revaux, JP. Simonato, "Insight into the Degradation Mechanisms of Highly Conductive Poly(3,4-Ethylenedioxythiophene) Thin Films". *ACS Appl. Polym. Mater*. **2020**, 2, 2686– 2695 (ACS).

84) E. Yvenou, M. Sandroni, A. Carella, M. N. Gueye, J. Faure-Vincent, S. Pouget , **R. Demadrille**, J. P. Simonato, "Spray-coated PEDOT:OTf films: thermoelectric properties and integration into a printed thermoelectric generator", *Mater. Chem. Front*., **2020**, 4 , 2054-2063 (RSC)

83) Q. Huaulmé, V. M. Mwalukuku, D. Joly, J. Liotier, Y. Kervella, P. Maldivi, S. Narbey, F. Oswald, A. J. Riquelme, J. A. Anta, **R. Demadrille**, "Photochromic dye-sensitized solar cells with light-driven adjustable optical transmission and power conversion efficiency", *Nat. Energy* **2020**, *5*, 468-477 (Nature Publishing Group)

82) B. Ghazal, K. Azizi, EF.Ewies, ASA, Youssef, V. M. Mwalukuku, **R. Demadrille**, T. Torres, S. Makhseed, "Push-Pull Zinc Phthalocyanine Bearing Hexa-Tertiary Substituted Carbazolyl Donor Groups for Dye-Sensitized Solar cells" *Molecules*, 25, 7, 1692, **2020**. (MDPI)

81) O. Bardagot, P. Kubik, T. Marszalek, P. Veyre, A. A. Medjahed, M. Sandroni, B. Grévin, S. Pouget, T. N. Domschke, A. Carella, S. Gambarelli, W. Pisula, **R. Demadrille**, "Impact of Morphology on Charge Carrier Transport and Thermoelectric Properties of N-Type FBDOPV-Based Polymers", *Advanced Functional Materials*, 30, 21, 2000449, **2020**, (Wiley)

80) B. Grévin, O. Bardagot, **R. Demadrille** "Implementation of data-cube pump–probe KPFM on organic solar cells", *Beilstein Journal of Nanotechnology,* 11, **2020**, 323-337. (Beilstein-Institut Zur Forderung der Chemischen Wissenschaften)

79) TN. Domschke, O. Bardagot, A Benayad, **R Demadrille**, A Carella, R Clerc*, A. Pereira* "Unraveling the mechanism behind air instability in thin semiconducting polymer layers p-doped with molybdenum dithiolene complexes", *Synthetic Metals*, 260, 116251, **2020**. (Elsevier)

78) M.N. Gueye, A. Carella, J. Faure-Vincent, **R. Demadrille**, J.P Simonato*, "Progress in understanding structure and transport properties of PEDOT-based materials: a critical review" *Progress in Materials Science* 108, **2020**, 100616. (**Highly cited paper**) (Elsevier)

77) J-P. Simonato, A. Carella, M. Gueye, **R. Demadrille**, J. Faure-Vincent. "Structure and dopant engineering in PEDOT thin films: Dramatic conductivity enhancement and application to 100% polymeric transparent film heaters". *Abstract of Papers of the American Chemical Society*, **2019**, 257, Meeting Abstract 29. (**Proceeding**) (ACS)

76) A. Carella, M. Gueye, **R. Demadrille**, A. Schultheiss, J-P. Simonato*. "Structure and dopant engineering in PEDOT thin films for the development of all-polymeric transparent heaters and

thermoelectric applications". *Abstract of Papers of the American Chemical Society*, **2019**, 258, Meeting Abstract 350-Phys. (**Proceeding**) (ACS)

75) Q. Huaulmé, C. Aumaitre, O. V. Kontkanen, D. Beljonne, A. Sutter, G. Ulrich, **R. Demadrille**, N. Leclerc "Functional panchromatic BODIPY dyes with near-infrared absorption: design, synthesis, characterization and use in dye-sensitized solar cells". *Beilstein J. Org. Chem*. **2019**, 15, 1758–1768. (Beilstein-Institut Zur Forderung der Chemischen Wissenschaften)

74) Q. Huaulmé, L. Cabau, **R. Demadrille**, "An important step toward more efficient and stable dye-sensitized solar cells" *Chem*, 4, 10, **2018**, 2267-2268. (Elsevier cell press)

73) J. Li, M. Bouchard, P. Reiss, D. Aldakov, S. Pouget, **R. Demadrille**, C. Aumaitre, B. Frick, D. Djurado, M. Rossi, P. Rinke, "Activation Energy of Organic Cation Rotation in $CH_3NH_3PbI_3$ and CD3NH3PbI3: Quasi-Elastic Neutron Scattering Measurements and First-Principles Analysis Including Nuclear Quantum Effects", *J. Phys. Chem. Lett*., **2018**, 9, 3969-3977. (ACS)

72) L. Xu C. Aumaitre Y. Kervella G. Lapertot, C. Rodríguez-Seco E. Palomares, R. Demadrille, P. Reiss, "Increasing the Efficiency of Organic Dye-Sensitized Solar Cells over 10.3% Using Locally Ordered Inverse Opal Nanostructures in the Photoelectrode", *Adv. Funct. Mater*., **2018**, 28, 1706291, (**Front cover picture**). (Wiley)

71) C. Aumaitre, C. Rodriguez-Seco, J. Jover, O. Bardagot, F. Caffy, Y. Kervella, N. Lopez, E. Palomares, **R. Demadrille**, "Visible and near-infrared organic photosensitizers comprising isoindigo derivatives as chromophores: synthesis, optoelectronic properties and factors limiting their efficiency in dye solar cells" *J. Mater. Chem. A*, **2018**, 6, 10074-10084. (RSC)

70) P. Josse, S. Li, S. Dayneko, D. Joly, A. Labrunie, S. Dabos-Seignon, M. Allain, B. Siegler, R. Demadrille, G. C. Welch, C. Risko, P. Blanchard, C. Cabanetos, "Bromination of the benzothioxanthene Bloc: toward new π-conjugated systems for organic electronic applications", *J. Mater. Chem. C*, **2018**, 6, 761-766. (RSC)

69) C.Aumaitre, D.Joly, D. Aldakov, **R.Demadrille**, "The Future of Semiconductor Oxides in Next-Generation Solar Cells", Chapter 3. Alternative Binary and Ternary Metal Oxides for Dye- and Quantum Dot-Sensitized Solar Cells, , Editor: Monica Lira-Cantu, Published Date: 29th September **2017**. (**Book**) Elsevier

68) M. N Gueye, A. Carella, **R. Demadrille**, J-P. Simonato, "All-Polymeric Flexible Transparent Heater", *ACS Appl. Mater. Interfaces*, **2017**, 9, 27250-27256. (ACS)

67) M. Godfroy, C. Aumaitre, F. Caffy, Y. Kervella, L. Cabau, L. Pelleja, P. Maldivi, S. Narbey, F. Oswald, E. Palomares, D.Joly, **R. Demadrille**, "Dithienylpyrazine-based photosensitizers: Effect of swapping a connecting unit on optoelectronic properties and photovoltaic performances" *Dyes and Pigments*, **2017**, 146, 352-360. (Elsevier)

66) P. Garillo, L. Birowik, F. Caffy, **R. Demadrille**, B. Grévin, "Imaging the Multi-Temporal photocarriers dynamics at the nanometer scale in organic and inorganic solar cells", *IEEE Photovoltaic Specialists Conference*, **2017**, 1516-1521. (**Proceeding**) (IEE)

65) D. Joly, M. Godfroy, L. Pellejà, Y. Kervella, P. Maldivi, S. Narbey, F. Oswald, E. Palomares, **R. Demadrille**, "Side chain engineering of organic sensitizers for dye-sensitized solar cells: a strategy to improve performances and stability" *J. Mater. Chem. A*, **2017**, 5, 13, 6122-6130. (RSC)

64) F. Caffy, N. Delbosc, P. Chavez, P. Levêque, J. Faure-Vincent, J-P. Travers, D. Djurado, J. Pécaut, B. Grévin, N. Lemaitre, N. Leclerc, **R. Demadrille** "Synthesis, optoelectronic properties and photovoltaic performances of wide band-gap copolymers based on dibenzosilole and quinoxaline units, rivals to P3HT." *Polymer Chem*., **2016**, 7, 4160-4175, (**cover picture**) (RSC)

63) JP Simonato, A. Carella, N. Massonnet, M. Gueye, E. Yvenou, **R. Demadrille**, A. De Geyer, J. Faure-Vincent, "Conductive and Thermoelectric Materials based on PEDOT" *Abstract Papers of the American Chemiscal Society*; 251, 496, **2016**. (**Proceeding**) (ACS)

62) M. N. Gueye, A. Carella, N. Massonnet, E. Yvenou, S. Brenet, J. Faure-Vincent, S. Pouget, F. Rieutord, H. Okuno, A. Benayad, **R. Demadrille**, J-P. Simonato, "Structure and Dopant Engineering in PEDOT Thin Films: Practical Tools for a Dramatic Conductivity Enhancement", *Chem. Mater*., **2016**, 28, 3462-3468. (ACS)

61) P. A Fernández-Garrillo, Ł. Borowik, F. Caffy, **R. Demadrille**, B. Grévin, "Photo-Carrier Multi-Dynamical Imaging at the Nanometer Scale in Organic and Inorganic Solar Cells", *ACS Applied Materials & Interfaces*, **2016**, 8, 45, 31460-31468. (ACS)

60) F. Fuchs, F. Caffy, **R. Demadrille**, T. Mélin, and B. Grévin. "High-Resolution Kelvin Probe Force Microscopy Imaging of Interface Dipoles and Photogenerated Charges in Organic Donor–Acceptor Photovoltaic Blends". *ACS Nano*., **2016**, 10 (1), 739-746. (ACS)

59) D. Joly, J-W Jung, I-D. Kim, R. **Demadrille** "Electrospun materials for solar energy conversion: innovations and trends" *J. Mater. Chem. C*, **2016**, 4 (43), 10173-10197 (RSC)
58) D.Joly, S-H.Choi, I-D.Kim, **R.Demadrille**, "Electrospinning for Advanced Energy and Environmental Applications", Chapter 7. Electrospinning Techniques and Electrospun Materials as Photoanodes for Dye-Sensitized Solar Cell Applications., CRC Press **2015**, Edited by Sara Cavaliere. Pages 177–200. DOI: 10.1201/b18838-8, (**Book**) Taylor & Francis Group

57) D.Joly, L.Pelleja, S.Narbey, F.Oswald, T. Meyer, Y. Kervella, P. Maldivi, J.N. Clifford, E.Palomares, **R.Demadrille**, "Metal-free organic sensitizers with narrow absorption in the visible for solar cells exceeding 10% efficiency" *Energy Environ. Sci*., **2015**, 8, 2010-2018. (RSC

56) J. Idigoras, M. Godfroy, D.Joly, A. Todinova, P. Maldivi, G. Oskam, **R. Demadrille**, J.A. Anta. "Organic dyes for the sensitization of nanostructured ZnO photoanodes: effect of the anchoring functions". *RSC Adv*., **2015**, 5, 68929-68938. (RSC)

55) N. Delbosc, W.Z.N. Yahya, N.Lemaitre, S. Berson, F. Fuchs, B. Grevin, J.Faure-Vincent, J-P. Travers, **R.Demadrille** "Synthesis, optoelectronic and photovoltaic properties of conjugated alternating copolymers incorporating 2,1,3-benzothiadiazole or fluorenone units: a comparative study", *RSC Adv*. 2014, 4, 15236-15244. (RSC)

54) S-H.Choi, B-H.Jang, J-S.Park, **R.Demadrille**, H.L.Tuller, I-D.Kim, "Low Voltage Operating Field Effect Transistors with Composite In_2O_3-ZnO-$ZnGa_2O_4$ Nanofiber Network as Active Channel Layer", *ACS Nano.* 8, **2014**, 2318-2327. (ACS)

53) S-J.Choi, F.Fuchs, **R.Demadrille**, B.Grévin, B-H.Jang, S-J.Lee, J-H.Lee, H.L.Tuller, I-D.Kim* "Fast Responding Exhaled-Breath Sensors Using WO3 Hemitubes Functionalized by Graphene-Based Electronic Sensitizers for Diagnosis of Diseases" *ACS Applied Materials and Interfaces* 6, **2014**, 9061-9070. (ACS)

52) F.Fuchs, M. Linares, C.de Vet, P.Leclère, **R.Demadrille**, B.Grévin, "On the photo-induced charge-carrier generation within monolayers of self-assembled organic donor-acceptor dyads." *Adv. Mater*. **2014**, 26, 6416-6422. (Wiley)

51) D.Joly, L.Pelleja, S.Narbey, F.Oswald, J.Chiron, J.N. Clifford, E.Palomares, **R.Demadrille** "A Robust Organic Dye for Dye Sensitized Solar Cells Based on Iodine/Iodide Electrolytes Combining High Efficiency and Outstanding Stability", *Sci. Rep.*, **2014**, 4, 4033. (Nature Publishing Group)

50) H.Muguerra, G.Berthoux, W.Z.N Yahya, Y.Kervella, V.Ivanova, J.Bouclé, **R.Demadrille** "Electrodeposited ZnO nanowires as photoelectrodes in solid-state organic dye-sensitized solar cells" *Phys. Chem. Chem. Phys*. 16, **2014**, 7472-7480. (RSC)

49) S-H.Choi, D.Hwang, D-Y.Kim, Y.Kervella, P.Maldivi, S-Y.Jang, **R.Demadrille**, I-D.Kim "Amorphous Zinc Stannate (Zn_2SnO_4) Nanofibers Networks as Photoelectrodes for Organic Dye-Sensitized Solar Cells" *Adv. Funct. Mater*., **2013**, 23, 3146–3155 (**Front Cover Picture**). (Wiley)

48) B.Grévin, K.Jradi, W.Z.N.Yahya, R.De Bettignies, **R. Demadrille,** "Fabrication of multiscale electrodes on organic photovoltaic thin films and in situ electrical characterization by nanostencil combined with Qplus AFM" *J. Vac. Sci. Technol. B*, **2013**, 31. (AIP)

47) E.J.Spadafora, K.Saint-Aubin, C.Celle, **R. Demadrille**, B.Grévin, J.P.Simonato, "Work function tuning for flexible transparent electrodes based on functionalized metallic single walled carbon nanotubes" *Carbon*, **2012**, 50, 3459-3464. (Elsevier)

46) F.Lincker, A.J.Attias, F.Mathevet, B.Heinrich, B.Donnio, J.L.Fave, P.Rannou, **R.Demadrille** "Influence of polymorphism on charge transport properties in isomers of fluorenone-based liquid crystalline semiconductors" *Chem. Comm*., **2012**, 48, 3209-3211. (RSC)

45) E.S.Andreiadis, D.Imbert, J.Pécaut, **R.Demadrille**, M. Mazzanti, "Self-assembly of highly luminescent lanthanide complexes promoted by pyridine-tetrazolate ligands" *Dalton Trans*., **2012**, 41, 1268-1277. (RSC)

44) E.S.Andreiadis, N.Gauthier, D.Imbert, **R.Demadrille**, J.Pécaut, M.Mazzanti, "Lanthanide Complexes Based on β-Diketonates and a Tetradentate Chromophore Highly Luminescent as Powders and in Polymers" *Inorg. Chem*. **2013**, 52, 14382−14390. (ACS)

43) A.Alberti, C.Aubert, M.Campredon, **R. Demadrille** "A special focus on the photodegradation of 6'-indolino-1-isobutyl-3,3- dimethylspiro[indoline- 2,3'-[3H]naphtho[2,1-b][1,4]oxazine]" *Bull. Chem. Soc. Japan*, **2012**, 85, 1048-1052. (CSJ)

42) E.J.Spadafora, M.Linares, W.Z.N. Yahya, F.Lincker, **R.Demadrille**, B.Grévin, "Local contact potential difference of molecular self-assemblies investigated by Kelvin probe force microscopy." *Appl. Phys. Lett.,* **2011**, 99, 233102. (AIP)

41) B.Grévin, M.Fakir, J.Hayton, M.Brun, **R.Demadrille**, J.Faure-Vincent "Qplus AFM driven nanostencil " *Review of Scientific Instruments*, **2011**, 82 (6), 063706. (AIP)

40) A.Alberti, M.Campredon, **R.Demadrille** "On the photodegradation of some 2H-chromene derivatives in fluid solution or in polyurethane matrix" *Bull. Chem. Soc. Japan*, **2011**, 84 (5), 52-561. (CSJ)

39) F.Lincker, B.Heinrich, R.DeBettignies, P.Rannou, J.Pécaut, B.Grévin, A.Pron, B.Donnio, **R.Demadrille**, "Fluorenone core donor-acceptor-donor π-conjugated molecules end-capped with dendritic oligo-(thiophene)s: Synthesis, liquid crystalline behaviour, and photovoltaic applications" *J. Mater. Chem.*, **2011**, 21, 5238-5247. (RSC)

38) E.S.Andreiadis, D.Imbert, J.Pécaut, A.Calborean, I.Ciofini, C.Adamo, **R.Demadrille**, M.Mazzanti, "Phosphorescent binuclear iridium complexes based on terpyridine-carboxylate: an experimental and theoretical study" *Inorg. Chem.*, **2011**, 50, 8197-8206. (ACS)

37) A.Pron, P.Gawrys, M.Zagorska, D.Djurado, **R.Demadrille**, "Electroactive materials for organic electronics: Preparation strategies, structural aspects and characterization techniques" *Chem. Soc. Rev.*, **2010**, 39, 2577-2632. **(Highly Cited Paper)** (RSC)

36) K.Huang, **R.Demadrille**, M.G. Silly, F.Sirotti, P.Reiss, O.Renault, "Internal structure of InP/ZnS nanocrystals unraveled by high-resolution soft X-ray photoelectron spectroscopy" *ACS Nano*, **2010**, 4 (8), 4799-4805. (ACS)

35) J.Hayton, J.Polesel-Maris, **R.Demadrille**, M.Brun, F.Thoyer, C.Lubin, J.Cousty, B.Grévin, "Atomic force microscopy imaging using a tip-on-chip: Opening the door to integrated near field nanotools" *Review of Scientific Instruments*, **2010**, 81, 093707. (AIP)

34) E.J.Spadafora, **R.Demadrille**, B.Ratier, B.Grévin, "Imaging the carrier photogeneration in nanoscale phase segregated organic heterojunctions by Kelvin probe force microscopy" *Nano Letters*, **2010**, 10 (9), 3337-3342. (ACS)

33) N.Levy, M.D.Levi, D.Aurbach, **R.Demadrille**, A.Pron "Failure and stabilization mechanisms in multiply cycled conducting polymers for energy storage devices" *J. Phys. Chem. C*, **2010**, 114 (39), 16823-16831. (ACS)

32) K.Huang, O.Renault, JP.Simonato, B.Grevin, E.Rouviere, J.DeGirolamo, P.Reiss, **R.Demadrille**, H.Benmansour "Multiple Hydrogen-Bond-Assisted Self-Assembly of Semiconductor Nanocrystals on Silicon Surfaces and Nanowires" *J. Phys. Chem. C* 113, 2009, 21389-21395. (ACS)

31) B.Grévin, **R.Demadrille**, M.Linares, R. Lazzaroni, P.Leclere. "Probing the Local Conformation within pi-Conjugated One-dimensional Supramolecular Stacks using Frequency Modulation Atomic Force Microscopy" *Adv. Mater.*, **2009**, 21, 4124-4129. (Wiley).

30) J.Hayton, F.Lincker, **R.Demadrille**, M.Linares, M.Brun, B.Grévin, "Pi-Conjugated Molecular Nanowire Stacks Investigated by Frequency-Modulation Atomic Force Microscopy in the qPlus Configuration" *Applied Phys. Express,* **2009**, 2, 091501. (IOP Publishing)

29) L.Picard, F.Lincker, Y.Kervella, M.Zagorska, R.DeBettignies, A.Peigney, E.Flahaut, G.Louarn, S.Lefrant, **R.Demadrille**, A.Pron "Composites of Double-Walled Carbon Nanotubes with bis-Quaterthiophene-Fluorenone Conjugated Oligomer: Spectroelectrochemical and Photovoltaic Properties" *J. Phys. Chem. C*, **2009**, 113, 17347-17354. (ACS)

28) E.S.Andreiadis, **R.Demadrille**, D.Imbert, J.Pécaut, M.Mazzanti, "Remarkable Tuning of the Coordination and Photophysical Properties of Lanthanide Ions in a Series of Tetrazole-Based complexes." *Chem. Eur. J.*, **2009**, 15, 9458-9476. (Wiley)

27) Z. Pomerantz, M. D. Levi, G. Salitra, **R. Demadrille**, A. Fisyuk, A. Zaban, D. Aurbach, A. Pron. "UV-Vis-NIR spectroelectrochemical and in situ conductance studies of unusual stability of n and p-doped of poly(dimethyloctylquaterthiophene-alt-oxadiazole) under high cathodic and anodic polarizations" *Phys. Chem. Chem. Phys.*, **2008**, 10, 1032-1042. (RSC)

26) D. Aldakov, C. Querner, Y. Kervella, B. Jousselme, **R. Demadrille**, E. Rossitto, P. Reiss, A. Pron, "Oligothiophene-functionalized CdSe nanocrystals: preparation and electrochemical properties". *Microchim. Acta*, **2008**, 160: 335–344. (Springer)

25) M.Linares, L.Sciffo, **R.Demadrille**, P.Brocorens, D.Beljonne, R. Lazzaroni, B. Grevin, "Two-Dimensional Self-Assemblies of Thiophene-Fluorenone Conjugated Oligomers on Graphite: A Joint STM and Molecular Modeling Study" *J. Phys. Chem. C*, **2008**, 112, 17. (ACS)

24) M.Giraud, E.S. Andreiadis, A.S. Fisyuk, **R.Demadrille**, J. Pécaut, D. Imbert, M. Mazzanti, "Efficient Sensitization of Lanthanide Luminescence by Tetrazole-Based Polydentate Ligands" *Inorg. Chem.*, **2008**, 47 (10), 3952-3954. (ACS)

23) F.Lincker, N.Delbosc, S.Bailly, R.DeBettignies, M.Billon, A.Pron, **R.Demadrille,** "Fluorenone-Based Molecules for Bulk-Heterojunction Solar Cells: Synthesis, Characterization, and Photovoltaic Properties", *Adv. Funct. Mater.*, **2008**, 18, 3444-3453. (Wiley)

22) **R.Demadrille**, N.Delbosc, Y.Kervella, M.Firon, R.DeBettignies, M. Billon, P.Rannou, A.Pron "Conjugated alternating copolymer of dialkylquaterthiophene and fluorenone: synthesis, characterisation and photovoltaic properties" *J.Mater.Chem.*, **2007**, 44, 4661-4669. (RSC)

21) **R.Demadrille**, M.Zagorska, M.Billon, G.Louarn, S.Lefrant, A.Pron, "Solution versus solid-state electropolymerization of regioregular conjugated fluorenonethienylene vinylene macromonomers-voltametric and spectroelectrochemical investigations" *J. Solid. State. Electrochem.*, **2007**, 11, 1051-1058. (Springer)

20) M. Chakaroun, R. Antony, R. Demadrille, and A. Moliton "Comparative study of optoelectronic properties of various Europium complexes used in organic electroluminescent structures", *Proc. SPIE 6192, Organic Optoelectronics and Photonics II*, 619221, **2006**, (**Proceeding**) (SPIE)

19) M.D.Levi, **R.Demadrille**, E.Markevich, Y.Gofer, A.Pron, D.Aurbach "Unusually stable and highly electrochemically reversible n-doping of regioregular alternate copolymer of dialkylbithiophene and fluorenone" *Electrochem.Comm.*, **2006**, 8, 993-998. (Elsevier)

18) M.D.Levi, A.S.Fisyuk, **R.Demadrille**, E.Markevich, Y.Gofer, D.Aurbach, A.Pron "Unusually highly stability of poly(alkylquaterthiophene-alt-oxadiazole) conjugated copolymer in its n and p-doped states" *Chem.Comm.*, **2006**, 3299-3301. (RSC)

17) C.Querner, A.Benedetto**, R.Demadrille**, P.Rannou and P.Reiss, "Carbodithioate-containing oligo and polythiophenes for nanocrystals' surface functionalization". *Chem.Mater.*, **2006**, 18, 4817-4826. (ACS)

16) JM. Verilhac, M. Firon, G. LeBlevennec, **R. Demadrille**, JP. Travers, A. Pron, "Polythiophene Derivatives-based materials for organic field effect transistors and photovoltaic cells", *IEEE Industrial Electronic Society*, **2006**, 5426. (**Proceeding**) (IES)

15) **R.Demadrille**, M.Firon, J. Leroy, P.Rannou, and A.Pron "Plastic solar cells based on fluorenone containing oligomers and regioregular alternate copolymers" *Adv. Funct. Mater.*, **2005**, 15 , 9, 1547-1552. (Wiley)

14) A.S.Fisyuk, **R.Demadrille**, C.Querner, M.Zagorska, J.Bleuse, A.Pron "Mixed alkylthiophene-based heterocyclic polymers containing oxadiazole units via electrochemical polymerisation: spectroscopic, electrochemical and spectro-electrochemical properties" *New. J. Chem.*, **2005**, 29, 707-713. (RSC)

13) K.Buga, R.Pokrop, M.Zagorska, **R.Demadrille**, F.Genoud, "Random and regioregular thiophene-based copolymers containing oligo-aniline side chains: synthesis, spectroscopic and spectroelectrochemical investigations". *Synthetic Metals*, **2005**,153, 137–140. (Elsevier)

12) M.D.Levi, **R.Demadrille**, A.Pron, M.A.Vorotyntsev, Y.Gofer and D.Aurbach. "Application of new refinement method for accurate determination of chemical diffusion coefficients in electro-active materials by potential step techniques" *J. Electrochem. Soc.*, **2005**, 152, E61-E67. (ECS)

11) **R.Demadrille**, B.Divisia-Blohorn, M.Zagorska, S.Quillard, S.Lefrant and A.Pron "The effect of chain microstructure on electrochemical and spectroelectrochemical properties of fluorenone-dialkyl-bithiophene alternate copolymers." *Electrochim. Acta*, **2005**, 50, 1597-1603. (Elsevier)

10) **R.Demadrille***, A.Rabourdin, M.Campredon and G.Giusti "Spectroscopic characterisation and photo-degradation studies of photochromic spiro[fluorene-9,3'-[3'H]-naphtho[2,1-b]pyrans]" *J. Photochem. PhotoBiol .A: Chem.* **2004**, 168, 143-152. (Elsevier)

9) M. Brun, **R. Demadrille**, P. Rannou, A.Pron, JP. Travers, B. Grévin, "Multiscale scanning Tunneling Microscopy Study of self-assembly phenomena in two-dimensional polycrystals of pi-conjugated polymers: The case of regioregular poly (dioctylbithiophene-alt-fluore-none)", *Adv. Mater*, **2004**, 16, 2087-2092. (Wiley)

8) K.Buga, K.Kepczynska, I.Kulszewicz-Bajer, M.Zagorska, **R.Demadrille**, A.Pron, S.Quillard, S.Lefrant. "Poly(alkylthiophene) with pendant dianiline groups via post-polymerization functionalization: preparation, spectroscopic and spectrolelectrochemical characterization" *Macromolecules*, **2004**, 37, 769-777. (ACS)

7) **R.Demadrille**, P.Rannou, A.Pron, M.Zagorska, K.Buga, I.Kulszewicz-Bajer, S.Quillard. «Spectroscopic and spectroelectrochemical studies of new poly(thiophene)-based conjugated polymers containing oligoaniline side chains.» *Nonlinear Optics Quantum Optics*, **2004**, 18, 3. (**Proceeding**)

6) **R.Demadrille**, P.Rannou, J.Bleuse, J-L.Oddou, A.Pron, M.Zagorska, "Regiochemically well-defined fluorenone-alkylthiophene copolymers: synthesis, spectroscopic characterization and their postfunctionalization with oligoaniline". *Macromolecules*, **2003**, 36, 7045-7054. (ACS)

5) **R.Demadrille**, B.Divisia-Blohorn, M.Zagorska, S.Quillard, P.Rannou, J-P.Travers, A.Pron "Preparation and spectroelectrochemical behaviour of a new alternate copolymer of 3,3'-di-noctyl-2,2'-bithiophene and fluoren-9-one" *New. J. Chem*., **2003**, 27, 1479-1484. (RSC)

4) **R.Demadrille**, M.Campredon, R.Guglielmetti, G.Giusti. "Photodegradation study of a [2H]-naphtho[1,2-b]pyran derivative in solution and polymer matrix." *Mol.Cryst.Liq.Cryst*., **2000**, 345, 325-332. (Taylor&Francis)

3) F.Delepine, R.Dubest, J.P.Bertigny, G.Levy, **R.Demadrille**, G.Giusti, R.Guglielmetti, J.Aubard «Surface enhanced Raman scattering (SERS) studies of the photodegradation of the 3,3- diphenyl-naphtho[2,1-b]pyran in solutions.» *Mol.Cryst.Liq.Cryst*., **2000**, 345, 257-262. (Taylor&Francis)

2) **R.Demadrille**, C.Moustrou, M.Campredon, G.Giusti, R.Faure "1H and 13C NMR chemical shifts assignment of some [3H]-naphtho[2,1-b]pyrans" *Magn. Reson. Chem*., **1999**, 37, 328-330. (Wiley)

1) **R.Demadrille**, C.Moustrou, A.Samat, R.Guglielmetti. "Palladium-catalyzed amination of photochromic triflate-substituted [3H]-naphtho[2,1- b]pyrans." *Heterocycl. Commun*., **1999**, 5, 123-126. (De Gruyter)

PATENTS

1) **R.Demadrille**, A.Pron, M.Firon, J.Leroy "Monomer, oligomer and pi-conjugated polymer compounds, and photovoltaic cells containing same ". WO2005105884 et FR2869318(A1). (Licensing agreement 2012-2014)

2) **R.Demadrille**, S.Guillerez "Compounds for placing objects by self-assembling and the use thereof ". WO2006134260A1, EP1890959A1

3) M.Giraud, E.S.Andreiadis, **R.Demadrille**, M.Mazzanti "Compounds useful as ligands and particularly asorganic chromophores for complexing lanthanides and applications thereof" WO/2009/037277, PCT/EP2008/062351

4) K.Huang, B.Jousselme, **R.Demadrille**. "Composés actifs rédox organiques à stockage de charges réversible et substrats et dispositifs de mémoire moléculaire les comprenant", EP2359370A1, WO2010066812A1

5) **R.Demadrille**, Y.Kervella « Colorant organique et ses utilisations dans les cellules photovoltaïques hybrides. », WO2013068588A1, EP2776515A1 (Licensing agreement 2014-2020)

6) **R. Demadrille**, Y. Kervella, D. Joly, M. Godfroy, « Colorants organiques à efficacité améliorée et ses utilisations dans les cellules photovoltaiques » WO2017194368A1, EP3455297A1. (Licensing agreement 2014-2020)

7) **R. Demadrille**, D. Aradilla "Electrode coated with redox polymers containing dione units, preparation methods and uses thereof" EP3282461A1, WO2018029310A1

8) D. Joly, Y. Kervella, **R. Demadrille**, « Organic photochromic dye and uses thereof for dye-sensitized solar cells » EP17305597A, WO2018215371A1.