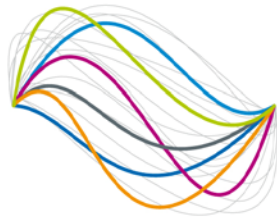




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Job title	Pi-Extension of Porphyrins: towards functional materials
Job type	Post Doc
Contract duration	24 months
Estimated net salary per month (€)	~ 2200 €
Qualifications	PhD in Molecular Chemistry. Organic/organometallic synthesis for porphyrin functionalization: multi-step synthesis, work under inert atmosphere, purification (column chromatography, TLC, ...) and characterization technics (NMR 1H, 13C, 2D, SM, UV-vis., IR, XRD). Electrochemistry (CV, DPV, RDE).
Job hours (full time/ part time)	full time
Employer	UBFC
Host Laboratory	Institut de Chimie Moléculaire de l'Université de Bourgogne (ICMUB) UMR CNRS 6302, Dijon
URL Host Laboratory	http://www.icmub.fr
Job description	<p>π-extension of porphyrins, i.e. fusion of one or several aromatic hydrocarbon(s) or aromatic heterocycle(s) onto the porphyrin periphery by intramolecular chemical oxidative coupling has attracted much attention because of potential applications in Near-IR electroluminescence displays, photovoltaic solar cells, non-linear optical materials, photodynamic therapy and molecular electronics. The additional covalent bond(s) generated by the fusion reaction force the porphyrin and its substituent(s) to be coplanar which improve the electrical communication between these fragments. These Pi-extended graphene-like molecules exhibit important change in their optical (bathochromic shift of UV-vis and emission spectra, increase in the efficiency of two photon absorption...) and electrochemical properties (decrease of the HOMO-LUMO gap). Virtually all positions of the porphyrin can be fused (meso and/or beta positions).</p> <p>This project aims at 1) synthesizing porphyrinic precursors to be fused, 2) synthesizing and exploring the reactivity of fused compounds, 3) transferring the reactivity observed in solution onto a surface by grafting the unfused precursors. The originality of this project stems from the unprecedented precursors to be fused. Analytical electrochemistry will also be performed to decipher the fusion reaction mechanism. The precursors will be characterized by electrochemical (CV, DPV, RDE...) and spectroscopic methods (NMR 1H, 13C et 2D, SM, UV-vis., IR, DRX, ...) and their reactivity towards the fusion reaction will be tested. The fused compounds will be comprehensively characterized and their potential in the different above-mentioned fields will be evaluated.</p> <p>Start date : 2018-01-01</p>



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Application	<p>Please send the following documents by e-mail to sophie.aupet@ubfc.fr:</p> <ol style="list-style-type: none">1) For EU candidates: Copy of your national ID card or of your passport page where your photo is printed.For non-EU candidates: Copy of your passport page where your photo is printed.2) Curriculum Vitae (1 page) including hyperlinks to your ResearchID, Research Gate Google Scholar accounts.3) Detailed list of publications including hyperlinks to DOI of each publication.4) Letter of motivation relatively to the position (Cover Letter) in which applicants describe themselves and their contributions to previous research projects (maximum 2 pages)5) Copy of your PhD degree if already available.6) Coordinates of reference persons (maximum 3, at least your master thesis supervisor): Title, Name, organization, e-mail.
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