

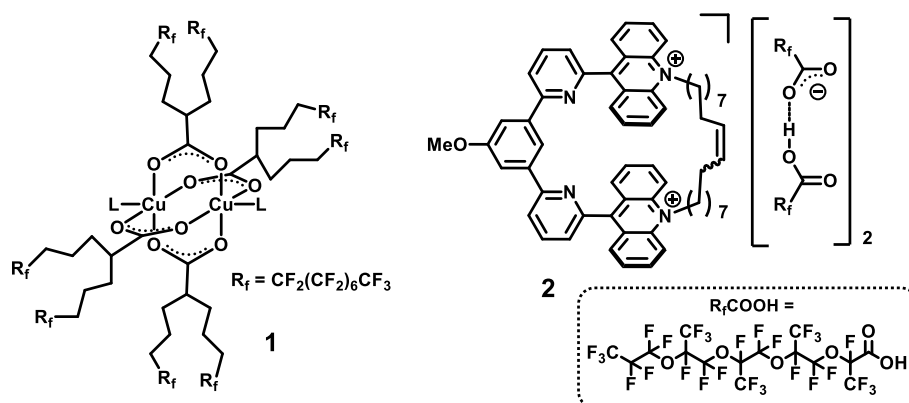
# Supramolecular chemistry in perfluorocarbons applied to purification processes and “sensing”

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Perfluorocarbons (PFCs) are the less polar and most inert existing fluids. Due to their chemical inertness, a reinforcement of supramolecular interactions is observed in these non-competitive solvents. Moreover, PFCs are immiscible at room temperature with organic solvents, including alkanes. By taking advantage of these two features, we developed fluorophilic supramolecular receptors for application in purification processes or the detection/titration of analytes that exploit compartmentalized liquid/liquid biphasic and triphasic systems. In the lecture, the synthesis and complexing properties of the highly fluorophilic receptors **1** and **2** will be presented as well as their use, in combination with PFCs, to the separation of perylene from a mixture of polyaromatic hydrocarbons,[1] the purification of reaction mixtures in a multistep synthesis of a hydantoin,[2a-b] the EtOH titration of hydroalcoholic solutions and naked-eye detection of EtOH in EtOH-gasoline blends.[2c]



## References:

- 1] a) J. Hu, J. S. Ward, A. Chaumont, K. Rissanen, J.-M. Vincent, V. Heitz, H.-P. Jacquot de Rouville, *Angew. Chem. Int. Ed.* **2020**, *59*, 23206; b) R. Correa da Costa, T. Buffeteau, A. Del Guerzo, N. D. McClenaghan, J.-M. Vincent, *Chem. Commun.* **2011**, *47*, 8250.
- [2] a) M. El Bakkari, N. McClenaghan, J.-M. Vincent, *J. Am. Chem. Soc.*, **2002**, *124*, 12942; b) M. El Bakkari, J.-M. Vincent, *Org. Lett.*, **2004**, *6*, 16, 2765, c) M. El Bakkari, R. Luguya, R. Correa da Costa, J.-M. Vincent, *New. J. Chem.*, **2008**, *32*, 193.