Synthesis of Molecular Tripods functionalized with Thioacetate Groups: Model Molecules for Gold Substrates Nanostructuration

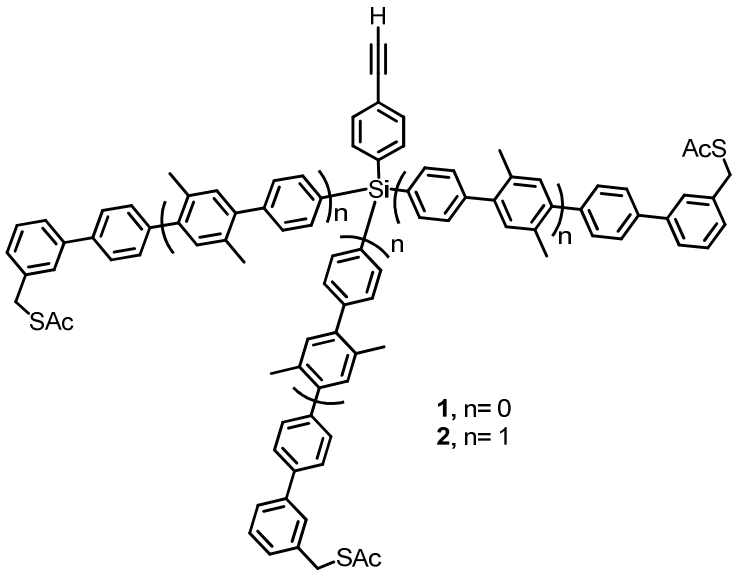
M. Sánchez-Molina, Málaga/ES, A. Díaz, Málaga/ES, M. Valpuesta, Málaga/ES, J. M. López-Romero, Málaga/ES

PhD Student. María Sánchez-Molina, University of Málaga, Campus de Teatinos s/n, 29071 Málaga

Self-assembled monolayers (SAMs) of thiols on gold surfaces have attracted widespread interest as they can serve as structural and/or functional parts of biosensors, drug-delivery systems, electronics devices, among other applications. [1]

For this purpose, tripodal oligo *p*-phenylenes have been studied since they can organize and control the spatial arrangement of molecules on flat substrates. These tripodal molecules consist of three legs with phenyl units bearing anchor groups, while the fourth is the terminal functional arm, which is expected to protrude from the surface and may be further functionalized. [2, 3]

An efficient synthesis of two molecular tripods (**1** and **2**) with two and four phenyl units in every leg is reported. Each leg is end-capped with a thioacetate group, due to they are intended to provide well-ordered structures in gold surfaces, generating self-assembled monolayers by removing *in situ* the thioacetate protecting group in basic conditions.



1, n= 0
2, n= 1

Literature:

[1] J.C. Love, Chem. Rev. 2005, 150, 1103. [2] M. Valášek, Beilstein J. Nanotechnol. 2016, 7, 374. [3] J. Hierrezuelo-León, Tetrahedron, 2013, 69, 3465.