

**P039** New pyrylium salts derivatives as basis of self assembled monolayers for protein immobilization on gold and silica  
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The use of self assembled monolayers (SAMs) on inorganic surfaces enables to immobilize biological macromolecules. We synthesized new pyrylium salts which can be useful to form SAMs with a high delocalization of  $\pi$  electrons and, therefore, electrochemically active. In addition to this, pyrylium salts easily react with primary amines and, as a consequence, with lysines, forming pyridinium salts; for this reason they can be used to immobilize proteins. XPS of the pyrylium derivative monolayer on gold indicates that on the surface there is a ratio between the elements content close to the theoretical one. FT-IR shows a peak at  $1630\text{ cm}^{-1}$  typical of pyrylium ring. Another derivative was used to form patterns of monolayers on silica through click chemistry by reactive micro-contact printing. Fluorescence microscopy measurements show that we are able to obtain pyrylium monolayers covalently bound to the surface.

Further experiments will be performed to test the reactivity of pyrylium SAMs both with aliphatic amines and proteins.