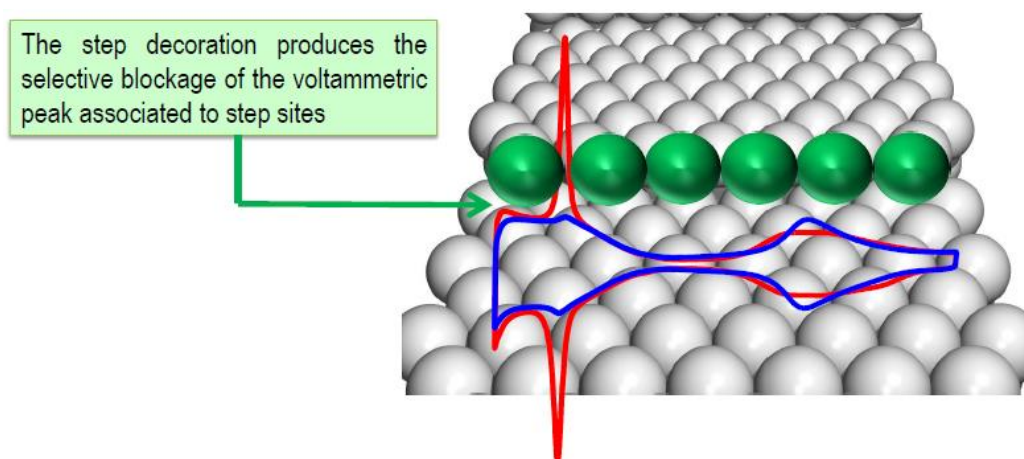


## Modification of platinum single crystal electrodes with d-metal adatoms

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The structure of the interface plays an important role in electrocatalysis, depending strongly on the surface structure of the electrode. In surface electrochemistry, single crystal electrodes (basal planes and stepped surfaces) catalyse in different ways particular reactions of interest like the oxygen reduction reaction, the CO oxidation or the hydrogen evolution reaction. Stepped surfaces allow the controlled introduction of sites of different geometry. The modification of these electrodes by adatom deposition allows preparation of bimetallic surfaces with enhanced catalytic activity. Modification of platinum stepped surface electrodes with group 15 and 16 adatoms has been studied. This has shown that these stepped surfaces can be decorated with adatoms getting a regular distribution [1]. In this work, we pretend to evaluate the effect on the electrocatalysis of modified single crystal surfaces with metal-d adatoms in important processes like the reactions mentioned above. It is known that Ni/Pt alloys are among the best catalysts for the oxygen reduction and hydrogen evolution [2]. For this reason, the study will be started with nickel decoration and later extended to other adatoms.



### ADVISERS/MENTORS

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**Acknowledgements:** Ministerio de Economía y competitividad (CTQ2013-44083-P)

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