



# Effect of hydrogen-interactions on electrochemical behavior of bithiophene self-assembled monolayers containing amide moieties

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Herein, we evaluated the influence of hydrogen interactions in bithiophene self-assembled monolayers on gold. We have elaborated SAMs from different thiol derivatives in which the number and position of amide functionality is varied to compare their electrochemical behavior. Preliminary, optimal conditions of the monolayer formation from our synthesized compounds were determined (thiol concentrations and incubation times). Electrochemical studies of the SAMs highlight a pronounced influence of the hydrogen bond when located in the outer extremity (electrochemical stability, interactions). The behavior observed with SAMs containing two amide moieties emphasizes the important impact of the number of hydrogen bonds inside the organic layer. (C) 2011 Elsevier B.V. All rights reserved.

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