



ELECTROCHEMICAL INSIGHTS INTO GOLD(I) COMPLEXES : SYNTHESIS AND OXIDATION POTENTIALS

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While the majority of gold-catalyzed reactions highlight the carbophilic Lewis acid character of gold(I),¹⁻⁴ several studies have shown over the last twenty years the feasibility of Au(I)/Au(III) catalytic systems through the use of external oxidants.⁵ This development opens up new prospects in the field of gold-based catalysis. Simultaneously, electrosynthesis is experiencing a major upsurge in interest among the scientific community: the direct use of electricity offers an economical, sustainable and safer alternative to conventional oxidizing/reducing agents.⁶ These methods are two powerful synthetic tools, both of which are undergoing a revival, and their combination could lead to new methodologies and new reactivities.⁷

In this context, a preliminary cyclic voltammetry study has been carried out on a range of gold complexes and ligands to determine their oxidation potentials. On the one hand, these data will potentially allow the *in situ* generation, the isolation and the characterization of gold(III) complexes. On the other hand, it will also enable the development of new catalytic processes under electrochemical conditions.

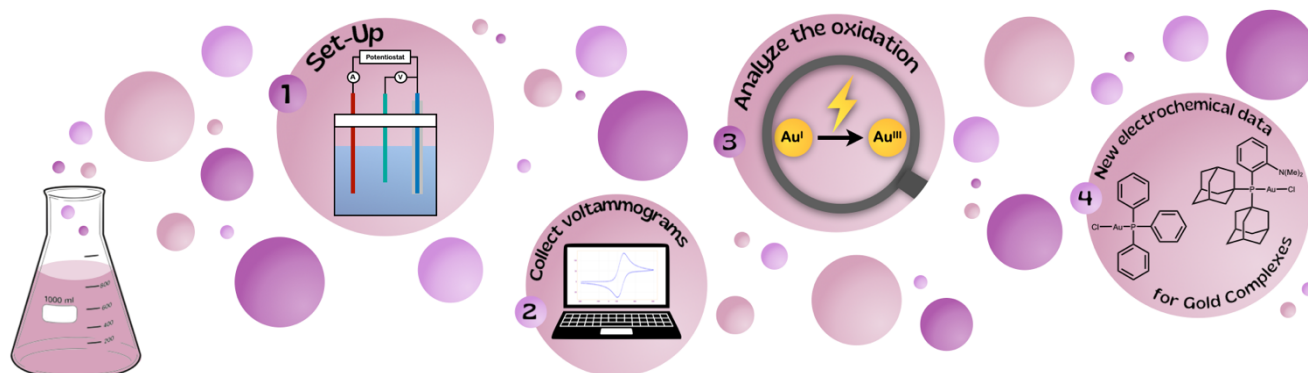


Figure: The different steps of the electrochemical study of gold

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