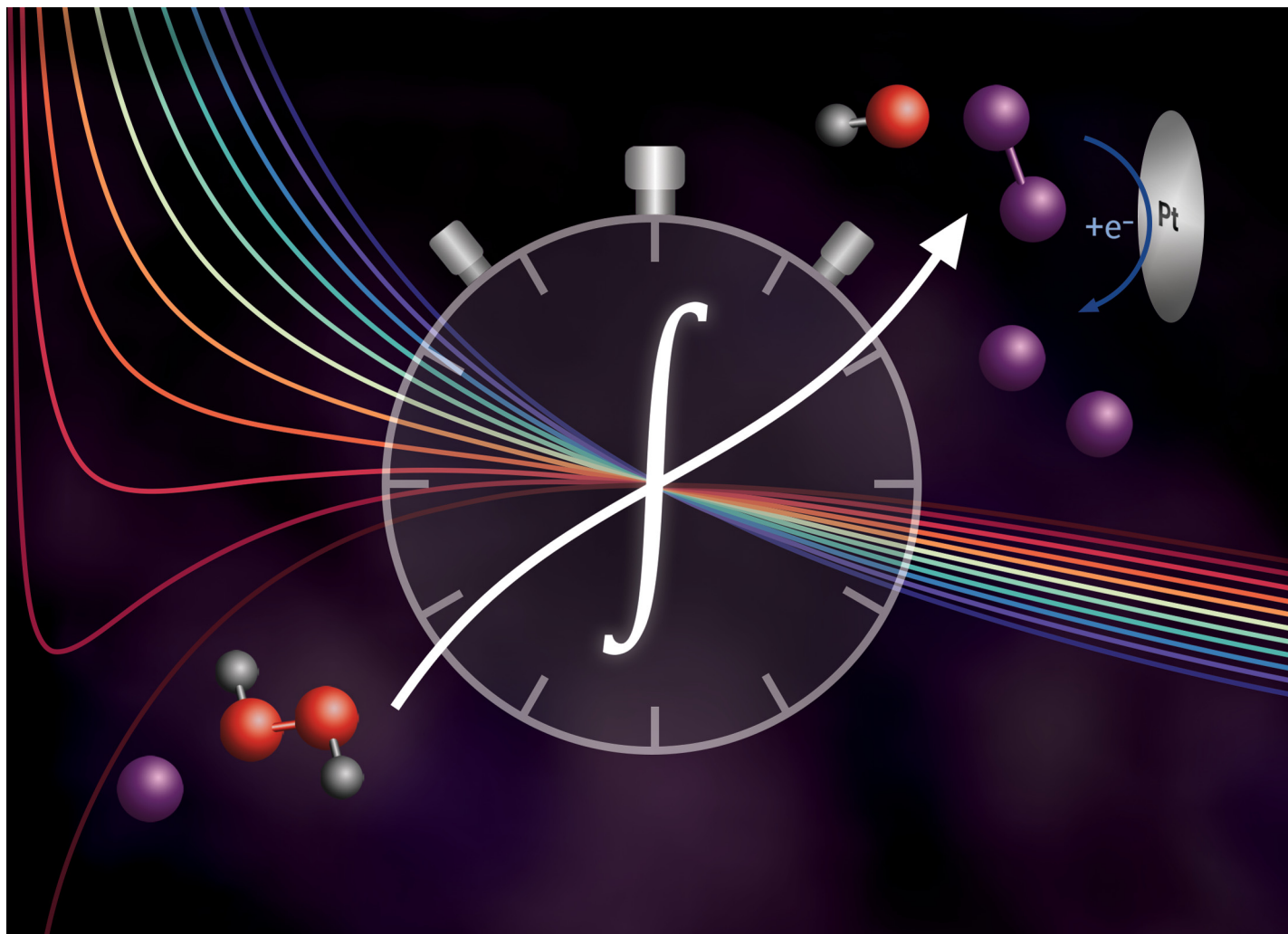


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**Showcasing research from the group of Prof. Silvia Serrano at the Institute of Chemistry, University of São Paulo, Brazil.**

A new approach to a first order irreversible homogeneous chemical reaction followed by an electrochemical process (C<sub>i</sub>E mechanism): theory, simulation and application

This work explores chronoamperometry for kinetic measurements. Current profiles from a first-order irreversible reaction were mathematically derived and transformed using semi-operations for kinetic analysis *via* non-linear fitting. Digital simulations confirmed the accuracy of the method. Applied to iodide oxidation by hydrogen peroxide, it yielded rate constants and activation energy values matching literature data. This study establishes a foundation for advanced chronoamperometric kinetics, expanding electrochemical applications.

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**As featured in:**



See Silvia H. P. Serrano *et al.*,  
*Phys. Chem. Chem. Phys.*,  
2025, **27**, 12675.