

**Thèse No. 5083**

**Électro-réduction du groupement carbonyle  
de composés aromatiques**

THÈSE

pour l'obtention  
du titre de Docteur ès sciences techniques  
présentée à  
L'ÉCOLE POLYTECHNIQUE FÉDÉRALE  
ZURICH

par

JEAN-CHARLES HOFMANN  
ing.-chim. dipl. ETH  
né le 13 février 1942  
de Genève

acceptée sur proposition  
du Prof. Dr. N. Ibl, rapporteur  
du Prof. Dr. J. Oth, corapporteur

Juris Druck + Verlag Zürich  
1973

ABSTRACT

The electrochemical reduction of some carboxyl compounds such as salicylic acid and derivatives of benzoic acid was investigated in different solvent conditions (DMF or water or their mixture) with a quaternary ammonium salt as base electrolyte. The mechanism of the reactions occurring at the working electrode (Hg or Pt) were studied, using DC and AC polarography as well as cyclic voltammetry. Methylbenzoate presents a simple behavior at the electrode. The presence of the hydroxy group (salicylic acid, o-, m- and p-hydroxy-methylbenzoate) is responsible for many interesting mechanistic complications.

\*\*\*\*\*