

Review

Natural Sulfide Minerals as Electrode Materials for Electrochemical Analysis in Dipolar Aprotic Solvents

Zorka Stanić

University of Kragujevac, Faculty of Science, Department of Chemistry, R. Domanović 12, P.O. Box 60, 34000 Kragujevac, Serbia

E-mail: zorkas@kg.ac.rs, zorka.stanic@pmf.kg.ac.rs

doi: 10.20964/2018.11.74

Received: 20 August 2018 / Accepted: 19 September 2018 / Published: 1 October 2018

Dipolar aprotic solvents are compounds with the relative permittivity higher than 15 and a dipole moment greater than 2 D. Solvents of this type are applied in the field of kinetic, catalytic and electrochemical studies. Many organic molecules with high molecular weight are readily dissolved in dipolar aprotic solvents. These solvents have relatively high pK_s and wide-area working potential which allows the determination of a large number of compounds in them. This review was written to provide the insight of electrochemistry in non-aqueous solutions, primarily based on the characterization and application of some solid-state sensors in a non-aqueous environment. Firstly, it highlights the results obtained over many years of investigation in our laboratory with the aim to contribute to the development of pure and applied chemistry in non-aqueous solutions. The review is divided into two main parts. The first part contains a discussion of solvent properties which further basically determine their application in electrochemistry. Second part mainly deals with the characteristics and use of the natural sulfide minerals (pyrite, chalcopyrite, and arsenopyrite) as electrochemical sensors in non-aqueous solutions for different purposes.

Keywords: Natural minerals; Pyrite, Chalcopyrite; Arsenopyrite; Sensor

[FULL TEXT](#)

© 2018 The Authors. Published by ESG (www.electrochemsci.org). This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).