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Karel Lacina, Jakub Sopoušek, Petr Skládal, Petr Vanýsek

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Karel Lacina*[,a], Jakub Sopoušek[a,b], Petr Skládal[a,b], and Petr Vanýsek[c,d]

[a] CEITEC - Central European Institute of Technology, Masaryk University, Kamenice 5, Brno, 625 00, Czechia

[b] Department of Biochemistry, Faculty of Science, Masaryk University, Kamenice 5, Brno, 625 00, Czechia

[c] Department of Chemistry and Biochemistry, 418 La Tourette Hall, Northern Illinois University, DeKalb, IL 60115-2862, USA

[d] Brno University of Technology, Department of Electrical and Electronic Technology, Technická 3058/10, Brno, 616 00, Czechia

*Corresponding author. Tel.: +420 54949 7611

E-mail address: lacinak@chemi.muni.cz (K. Lacina)

Abstract

The output voltage of a galvanic cell can be increased by insertion of two pairs of anodes and cathodes into a single volume of an electrolyte. The anode from the first pair and the cathode from the second pair are galvanically connected using external wire conductor. Two cells connected through such short circuit performed as separate units when their spatial separation was sufficient. The output voltage of thus modified cell increased above the thermodynamic potential of a single cell, with the increased distance of the second pair, and finally reached double the value of the output voltage of a single cell after exceeding a characteristic parameter, *the saturation distance*. Further properties of the system are described on the example of a modified Daniell cell including tests of diverse types of electrolytes and other experimental conditions. The general nature of the principles was confirmed in an experiment with the Leclanché cell and linear character of the multiplication of the corresponding output voltage was confirmed with 2, 3 and 4 galvanically short-circuited cells. All these results lead to the