

Correction to “An Experimental and Theoretical Study of Interactions between Unlike Surface Anions and Increases in the Rate of Electrochemical Reactions”

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The increases in current during the electrochemical oxidation of formic acid caused by adding small amounts of fluoroboric acid to the electrolyte were due to an impurity. The impurity was in fluoroboric acid. It is known to be arsenic.^{1,2} Experiments in which fluoroboric acid is added to a solution containing formic acid and perchloric acid were repeated. A 1 M solution of fluoroboric acid (VWR, BDH Aristar 48–50%) was electrolyzed at 300 mV for 24 h to remove arsenic.^{1,2} Additions of the electrolyzed fluoroboric acid did not increase the current. Instead, the oxidation of formic acid was inhibited. Furthermore, the current–potential curves from experiments in which sulfuric acid was added to the solution, which contained only formic acid and perchloric acid, correspond to transient behavior. The curves could not be reproduced as limiting behavior. After a sufficient number of potential cycles the amplitude of the current–potential curve decreased below the limiting curve obtained for the solution containing only formic acid and perchloric acid.

■ REFERENCES

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