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# Platinum-free catalysts for low temperature fuel cells

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## Abstract

In this work, we have successfully prepared Zn/Co-N/C and Zn/Co-Fe/N/C composites, both derived from single zeolitic imidazolate framework (ZIF) precursor Zn/Co-ZIF containing equivalent quantities of Zn and Co metal sites. The composites were formed by pyrolysis of the precursor at 700 °C in inert gas atmosphere as such and after mixing it with Fe(II) salt and 1,10-phenontraline in ethanol. Catalytic tests for oxygen reduction reaction (ORR) in electrochemical cell demonstrated promising results allowing us to consider these composites as potential Pt-free catalysts for low temperature fuel cells.