

## Accepted Manuscript

Titania, Zirconia and Hafnia Supported Ruthenium(0) Nanoparticles: Highly Active Hydrogen Evolution Catalysts

Elif Demir, Serdar Akbayrak, Ahmet M. Önal, Saim Özkar

PII: S0021-9797(18)30842-7  
DOI: <https://doi.org/10.1016/j.jcis.2018.07.085>  
Reference: YJCIS 23876

To appear in: *Journal of Colloid and Interface Science*

Received Date: 12 May 2018  
Revised Date: 17 July 2018  
Accepted Date: 20 July 2018

Please cite this article as: E. Demir, S. Akbayrak, A.M. Önal, S. Özkar, Titania, Zirconia and Hafnia Supported Ruthenium(0) Nanoparticles: Highly Active Hydrogen Evolution Catalysts, *Journal of Colloid and Interface Science* (2018), doi: <https://doi.org/10.1016/j.jcis.2018.07.085>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



**Titania, Zirconia and Hafnia Supported Ruthenium(0)  
Nanoparticles: Highly Active Hydrogen Evolution Catalysts**

Elif Demir <sup>a</sup>, Serdar Akbayrak<sup>a,b\*</sup>, Ahmet M. Önal<sup>a\*</sup>, Saim Özkar<sup>a</sup>

<sup>a</sup> Department of Chemistry, Middle East Technical University, 06800, Ankara, Turkey

<sup>b</sup> Department of Chemistry, Faculty of Arts and Science, Sinop University, 57000 Sinop,  
Turkey

\*Corresponding authors. Tel: +90 312 210 3208; Fax: +90 312 210 3200

E-mail addresses: serdarakbayrak.rg@gmail.com (S. Akbayrak), [aonal@metu.edu.tr](mailto:aonal@metu.edu.tr) (A. M. Önal)

Download English Version:

<https://daneshyari.com/en/article/6989332>

Download Persian Version:

<https://daneshyari.com/article/6989332>

[Daneshyari.com](https://daneshyari.com)