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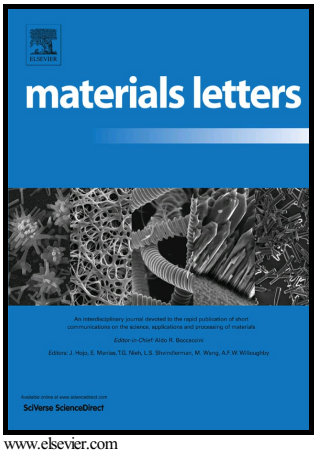




PII: S0167-577X(16)31858-4
DOI: http://dx.doi.org/10.1016/j.matlet.2016.11.105
Reference: MLBLUE21799

To appear in: *Materials Letters*

Received date: 29 July 2016
Revised date: 25 October 2016
Accepted date: 27 November 2016

Cite this article as: Ikwhang Chang, Jinhwan Lee, Yeaguen Lee, Yoon Ho Lee, Seung Hwan Ko and Suk Won Cha, Thermally stable Ag@$ZrO_2$ core-shell via atomic layer deposition, *Materials Letters* http://dx.doi.org/10.1016/j.matlet.2016.11.105

# Thermally stable Ag@$ZrO_2$ core-shell via atomic layer deposition

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**ABSTRACT**

We investigated the microstructures and electrical properties of thermally stable $ZrO_2$-coated Ag nanowires (NWs) under high temperatures of up to 600 °C. Although the $ZrO_2$-coating layers on the Ag NWs were sub 1 nm (<10 cycles), we confirmed that the thermal stability of the Ag NWs was excellent even at the high temperature of 600 °C. After annealing at 600 °C, the sheet resistance of $ZrO_2$-coated Ag NWs was extremely low (25 Ω/sq), while the sheet resistance of initial Ag NWs was very high (~1587 Ω/sq) due to the agglomeration phenomenon of Ag NWs.