Electronic Supplementary Material (ESI) for RSC Advances.


# Molybdenum-modified mesoporous $SiO_2$ as an efficient Lewis acid catalyst for the acetylation of alcohols.

Xolani S. Hlatshwayo, Matumuene Joe Ndolomingo, Ndzondelelo Bingwa*, and Reinout Meijboom*

*Center for Synthesis and Catalysis, Department of Chemical Sciences, University of Johannesburg, P.O. Box 524, Auckland Park, 2006 Johannesburg, South Africa. Tel.: +27 (0)11 559 2367. Fax: +27 (0)11 559 2819. E-mail: rmeijboom@uj.ac.za*

## SUPPLEMENTARY INFORMATION

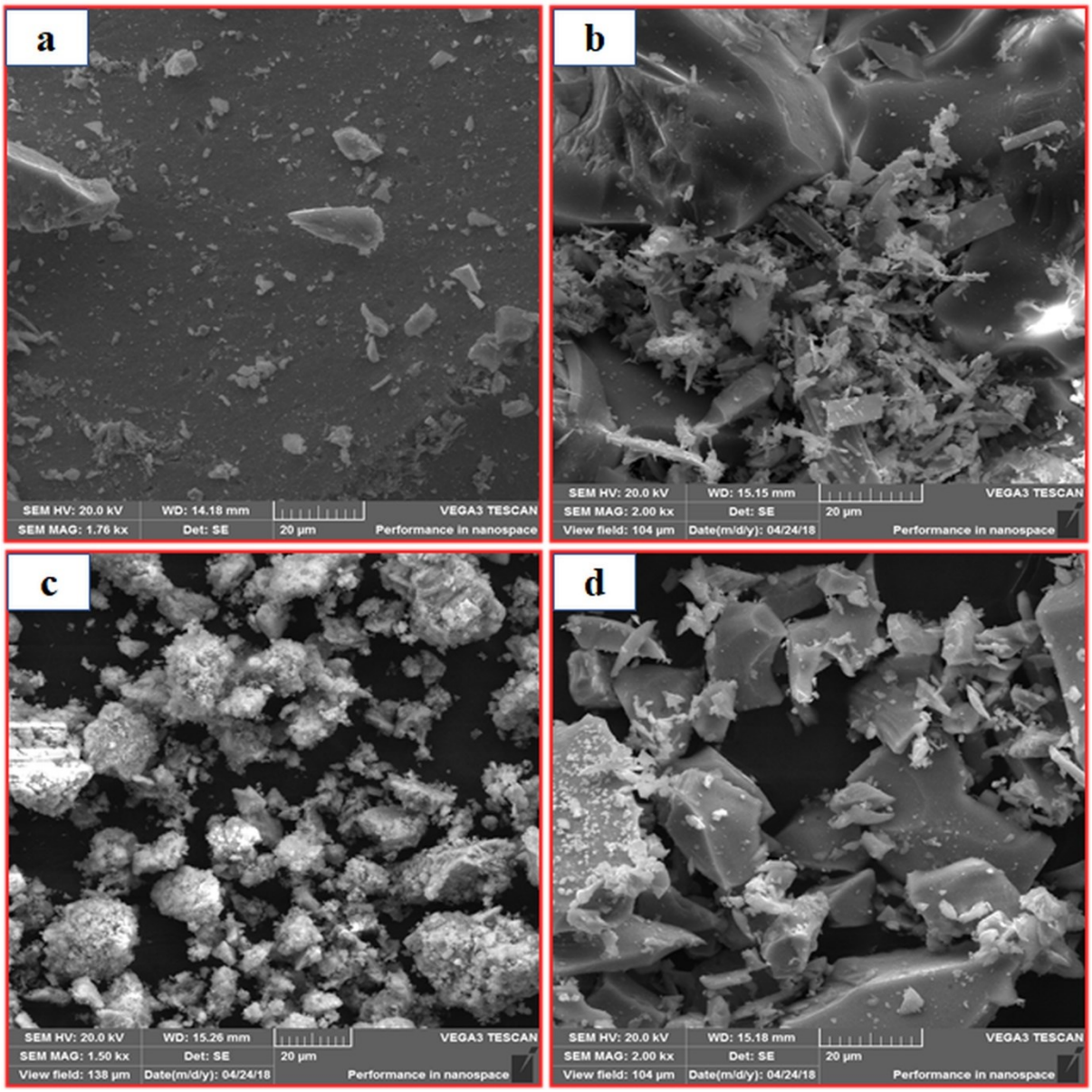


Figure S1. Scanning electron microscopy images (a) 5%$WO_3$-$ZrO_2$, (b) 5%$MoO_3$-$SiO_2$, (c) 5%$MoO_3$-$ZrO_2$, and (d) 5%$WO_3$-$SiO_2$.

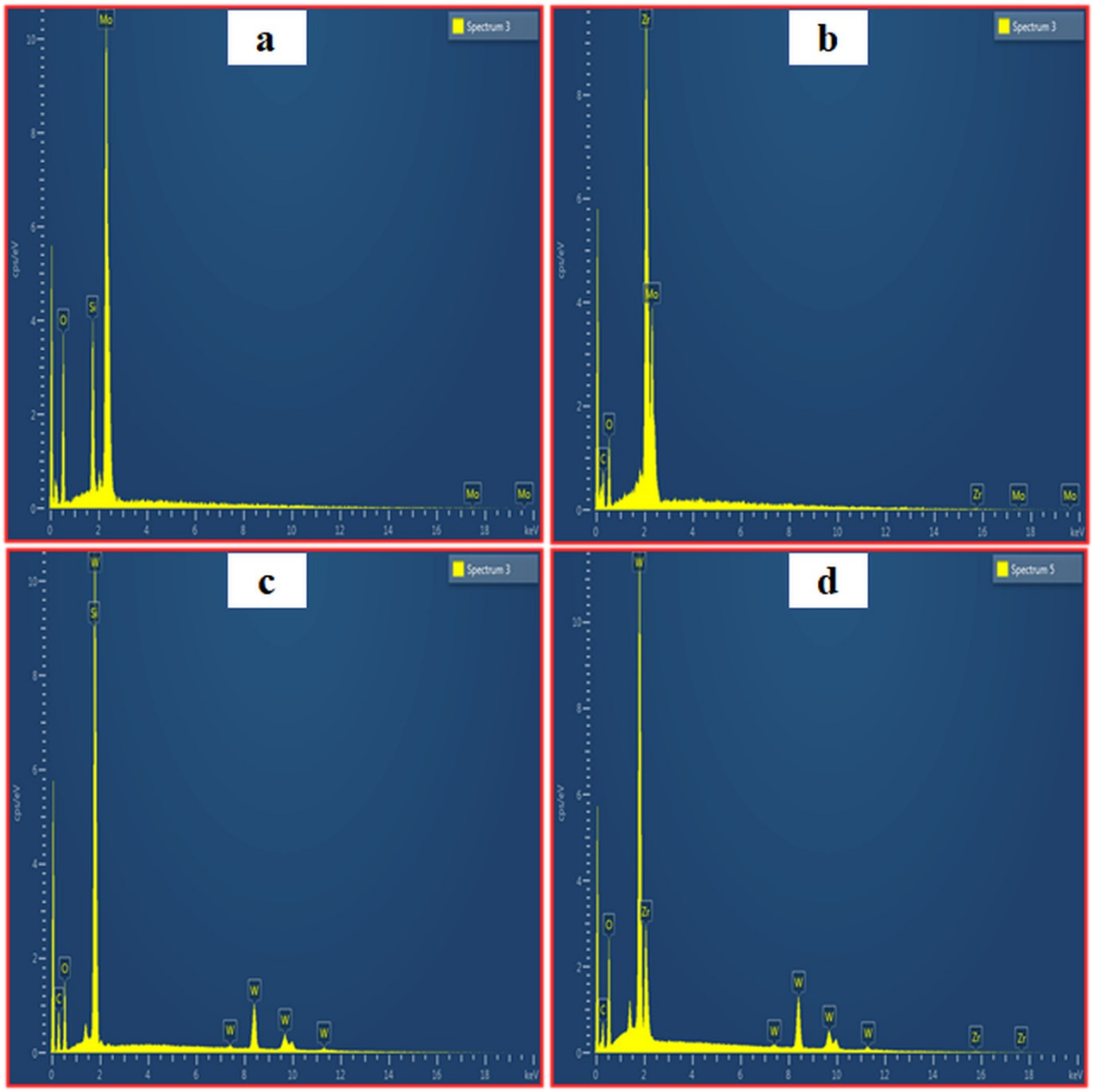


Figure S2. EDX spectrums of (a) 5%$MoO_3$-$SiO_2$, (b) 5%$MoO_3$-$ZrO_2$, (c) 5%$WO_3$-$SiO_2$, and (d) 5%$WO_3$-$ZrO_2$.

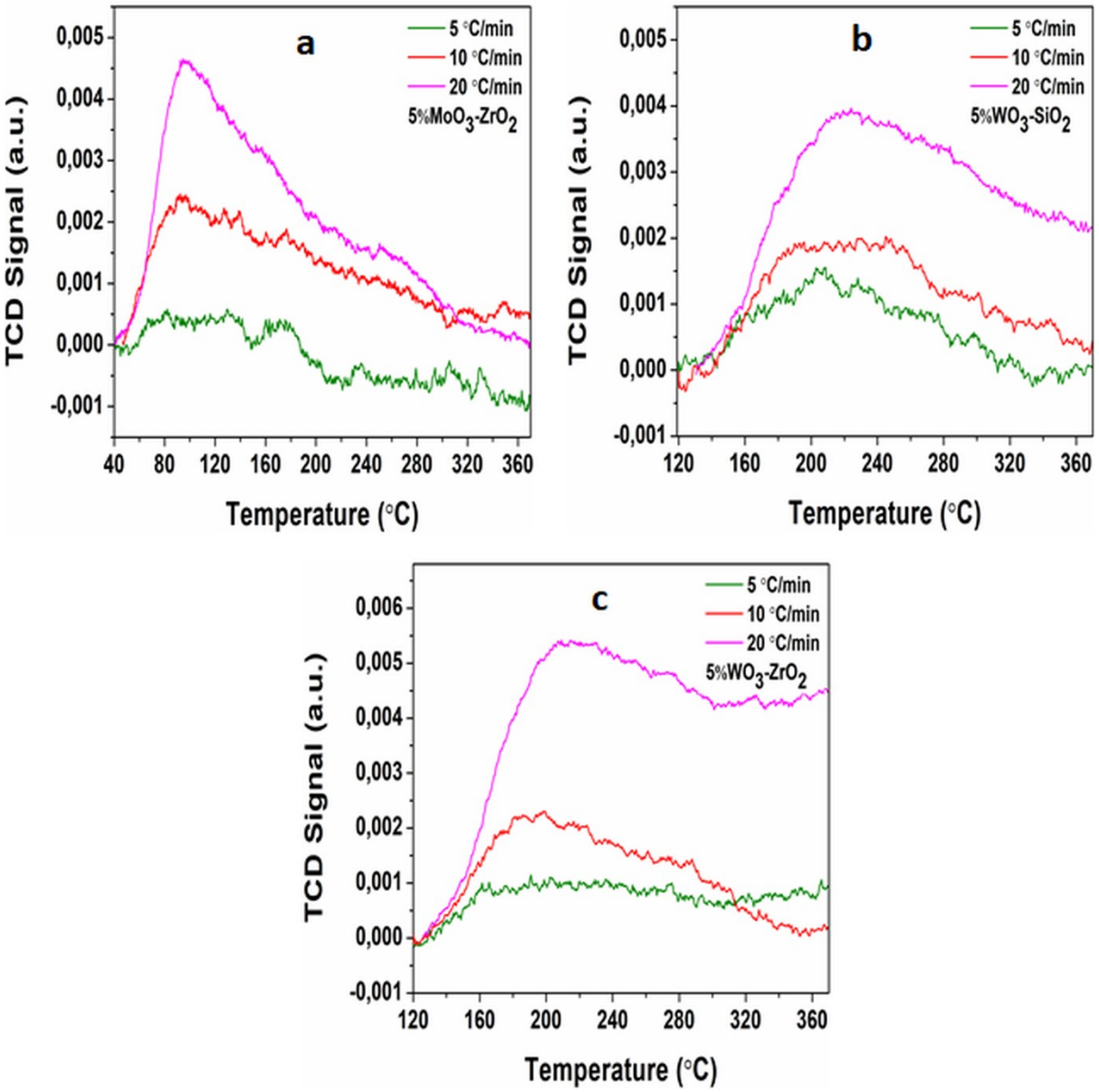


Figure S3. $NH_3$-TPD of (a) 5%$MoO_3$-$ZrO_2$, (b) 5%$WO_3$-$SiO_2$, and (c) 5%$WO_3$-$ZrO_2$.

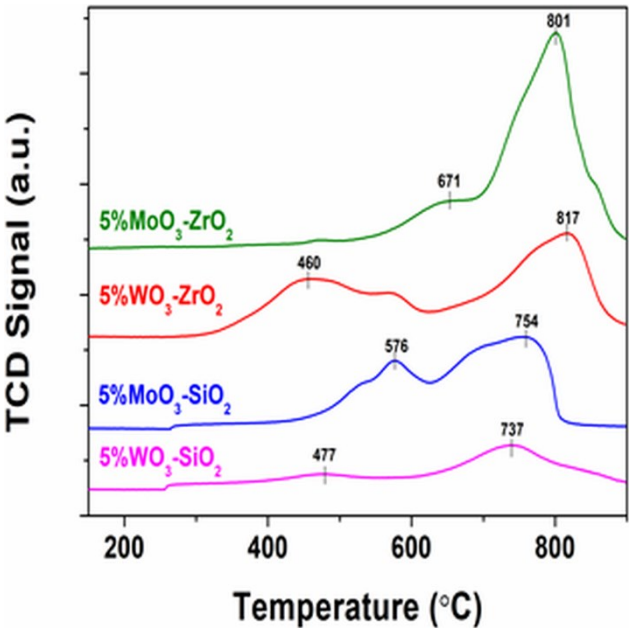


Figure S4. TPR of the synthesized solid Lewis acid catalysts.

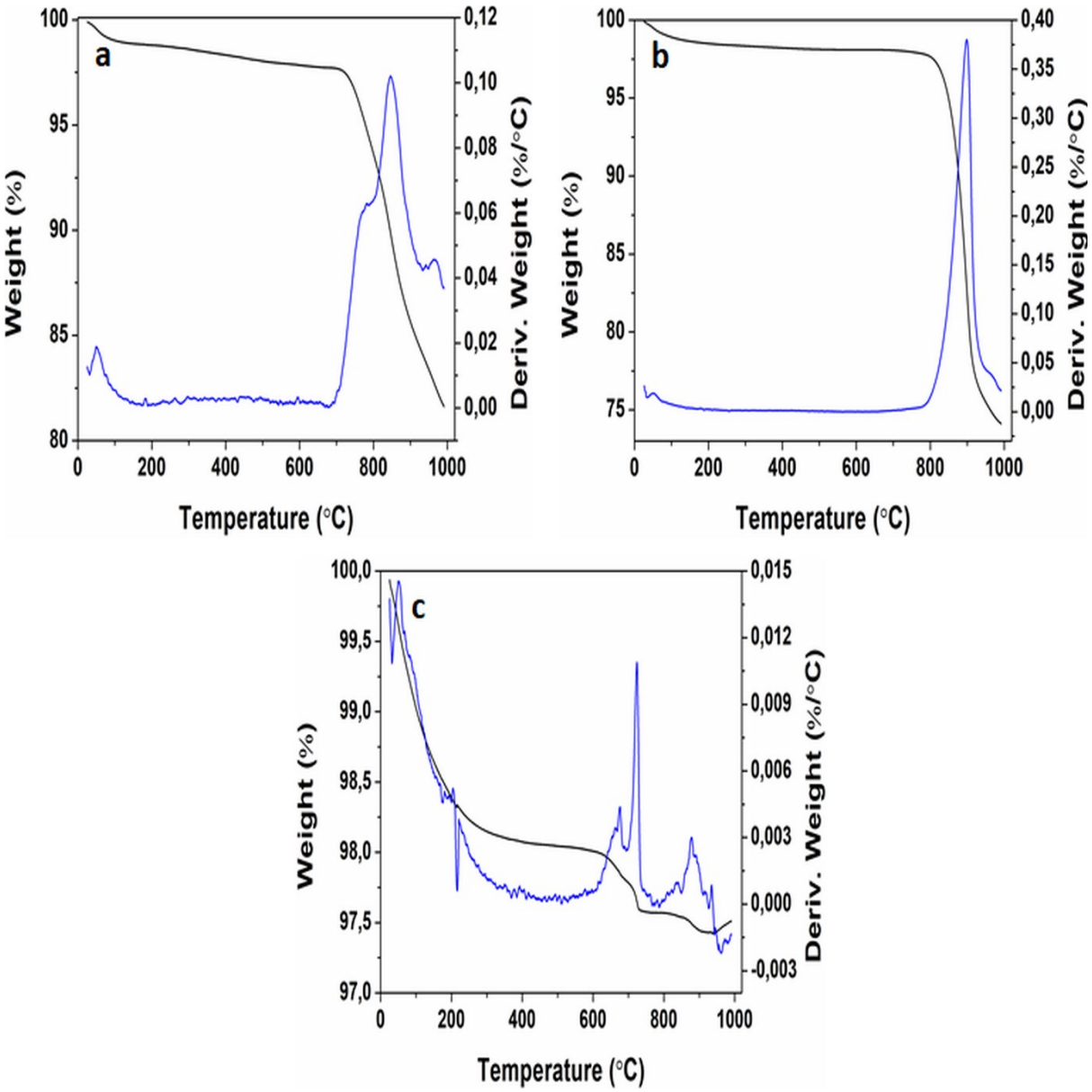


Figure S5. Thermogravimetric analysis and their derivatives: (a) 5%$WO_3$-$SiO_2$, (b) 5%$WO_3$-$ZrO_2$, and (c) 5%$MoO_3$-$ZrO_2$.