

Threshold Switching in Forming-Free Anodic Memristors Grown on Hf–Nb Combinatorial Thin-Film Alloys

Ivana Zrinski ¹, Janez Zavašnik ², Jiri Duchoslav ³, Achim Walter Hassel ^{1,4} and Andrei Ionut Mardare ^{1,*}

¹ Institute of Chemical Technology of Inorganic Materials, Johannes Kepler University Linz, Altenberger Street, 69, 4040 Linz, Austria

² Jožef Stefan Institute, Jamova Cesta 39, 1000 Ljubljana, Slovenia

³ Center for Surface and Nanoanalytics, Johannes Kepler University Linz, Altenberger Street, 69, 4040 Linz, Austria

⁴ Danube Private University, Steiner Landstrasse 124, 3500 Krems-Stein, Austria

* Correspondence: andrei.mardare@jku.at

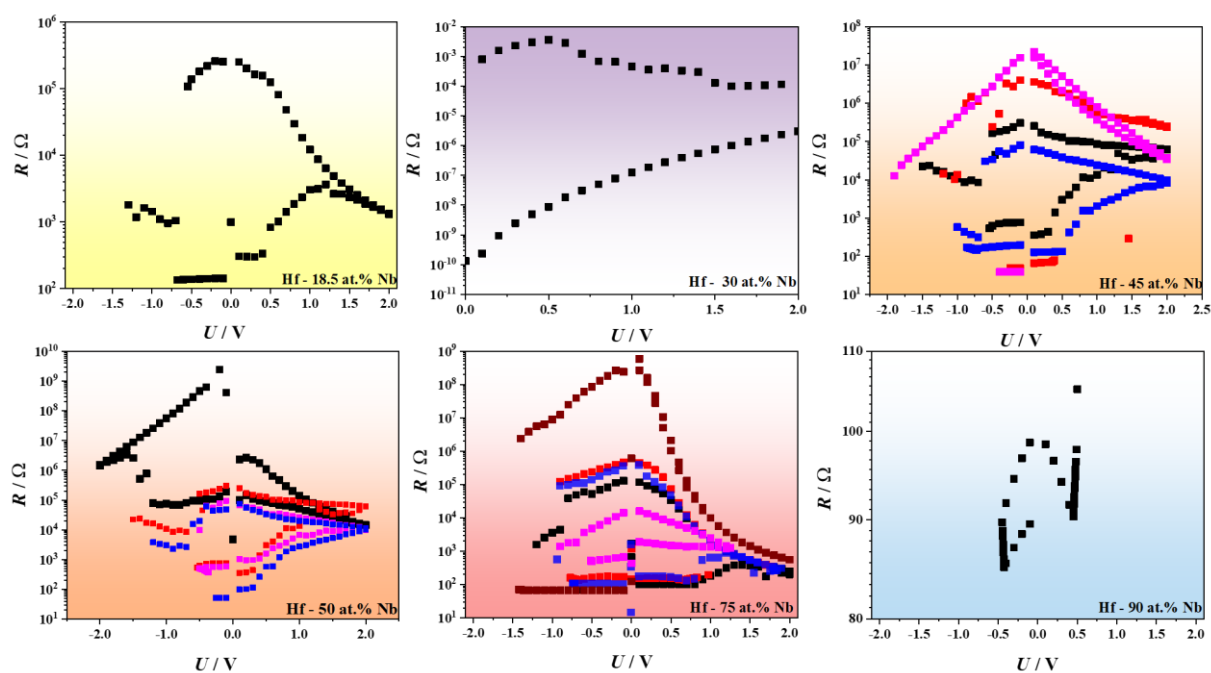


Figure S1. Representative R - U sweeps along the Hf-Nb anodic memristors.

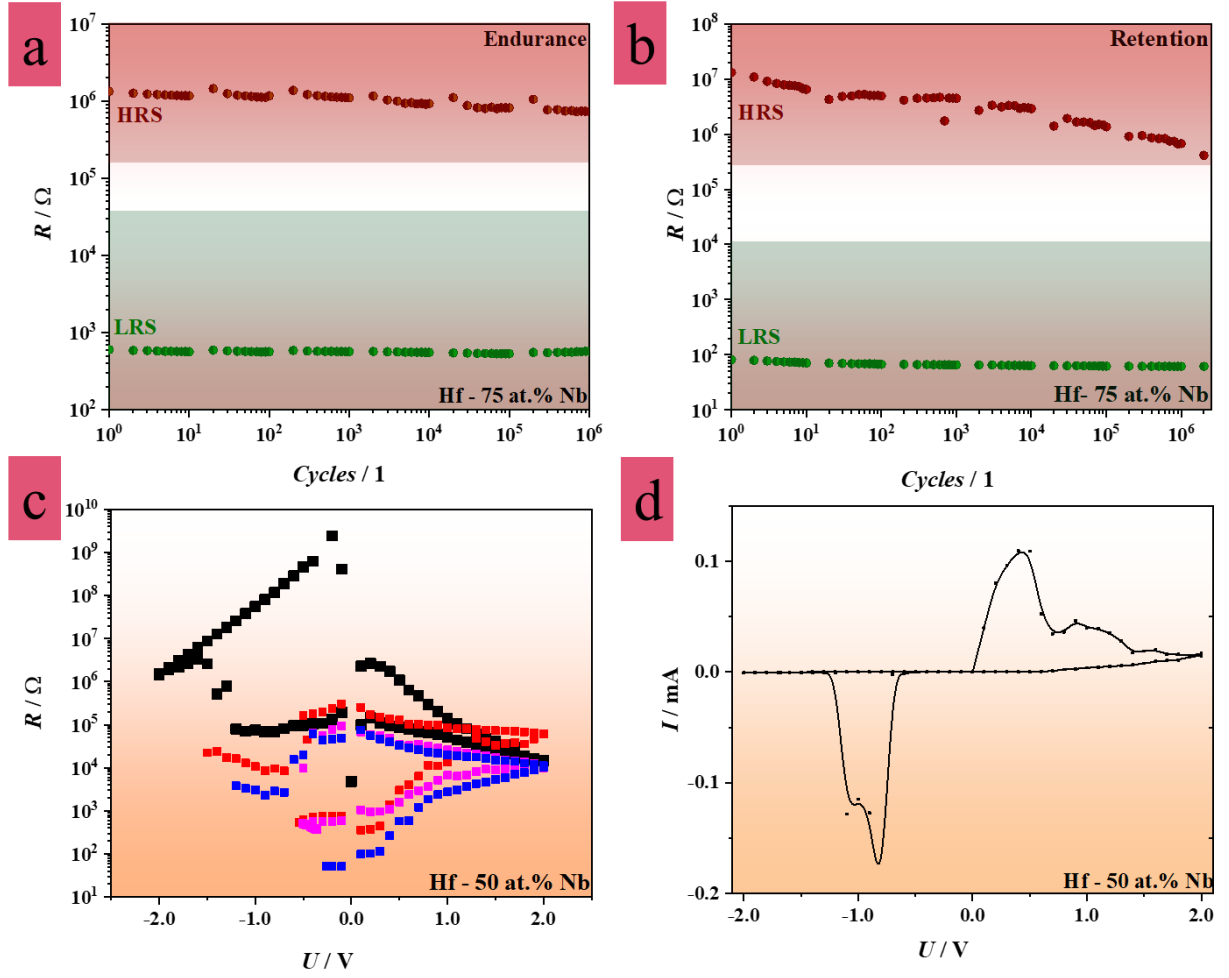


Figure S2. (a), (b), Endurance and retention measurements recorded for metal-insulator-metal (MIM) structures grown on Hf-75 at.%Nb alloys, (c) $R-U$ sweeps for MIMs formed on Hf-50 at.%Nb, (d) representative $I-U$ sweep recorded for MIMs formed on Hf-50 at.%Nb alloys.