

Supporting Information

Improved Resistive Switching Characteristics of multi-stacked HfO₂/Al₂O₃/HfO₂ RRAM structure for neuromorphic and synaptic applications: Experimental and Computational study

Ejaz Ahmad Khera^a, Chandreswar Mahata^b, Muhammad Imran^c, Niaz Ahmad Niaz^d, Fayyaz Hussain^{d*}, R. M. Arif Khalil^{d*}, Umbreen Rasheed^d and SungjunKim^b

^aDepartment of Physics Bahawalnagar Campus, The Islamia University of Bahawalpur, 63100 Pakistan

^bDivision of Electronics and Electrical Engineering, Dongguk University, Seoul 04620, South Korea

^cDepartment of Physics, Govt. College University Faisalabad, 38000, Pakistan

^dMaterials Simulation Research Laboratory (MSRL), Department of Physics, Bahauddin Zakariya University Multan Pakistan, 60800

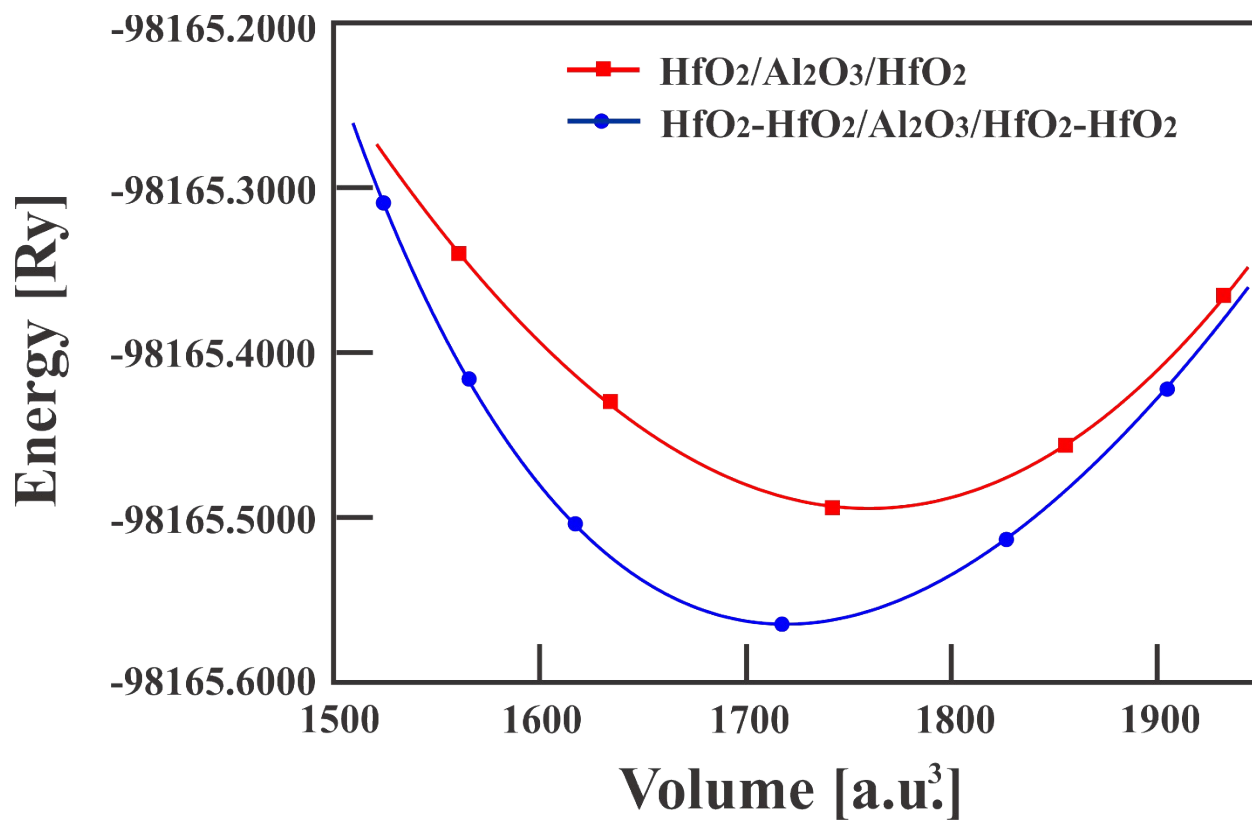


Figure S1. The geometry optimized Energy vs. Volume plots using Birch Murnaghan equation of states.

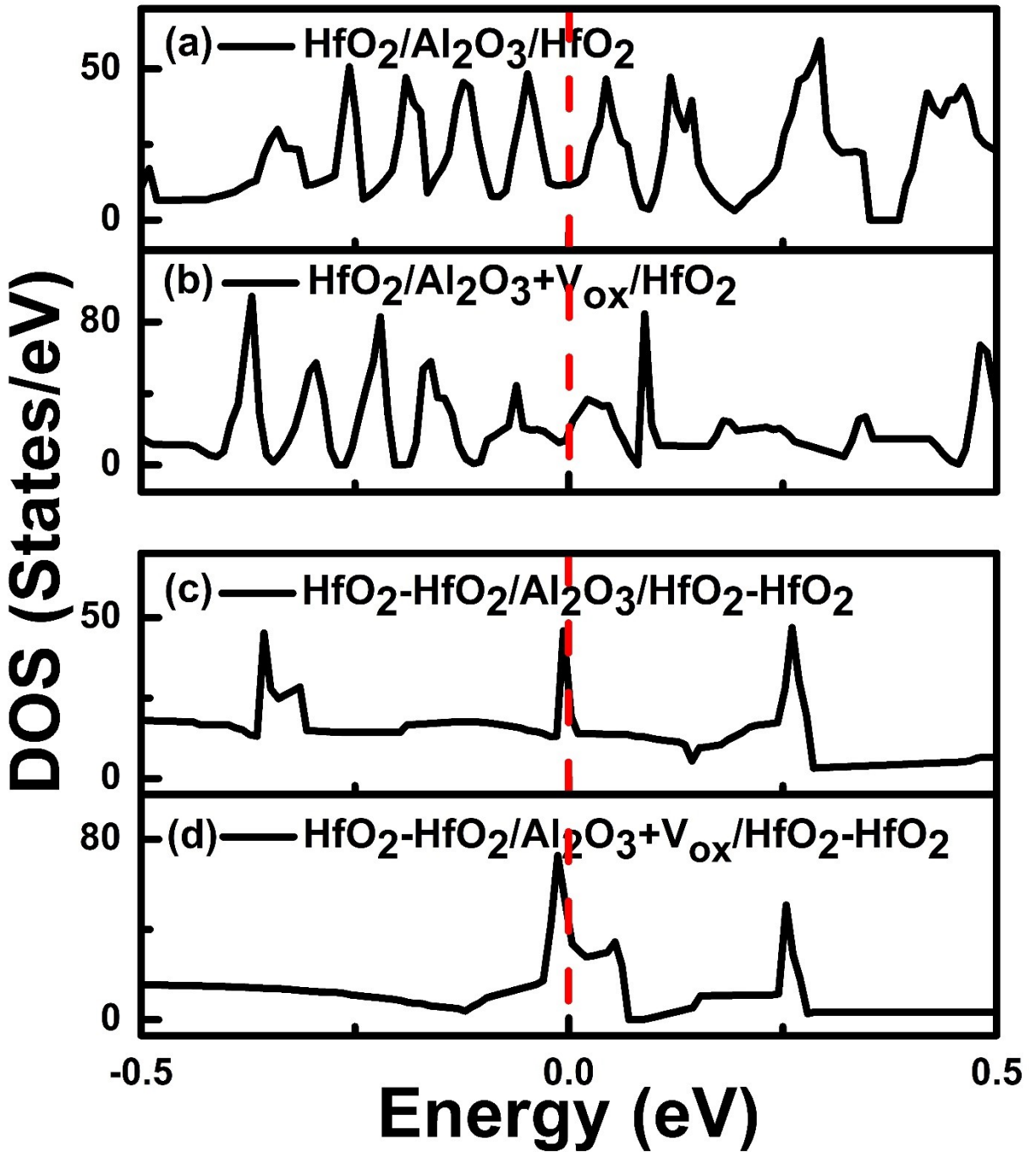


Figure S2. The calculated Density of States (DOS) using VASP simulation code.