

Theoretical Investigation of Quantum Capacitance of Co-doped α -MnO₂ for Supercapacitor Application using Density Functional Theory

Ariya K Vijayan¹, Sreehari M. S.¹, Simran Kour¹, Saptarshi Ghosh Dastider^{1,2}, Krishnakanta Mondal³, A. L. Sharma^{1*}

¹Department of Physics, Central University of Punjab, Bathinda, Punjab, India-151401

²Department of Chemistry, Central University of Punjab, Bathinda, Punjab, India-151401

³Department of Physics & Astrophysics, University of Delhi, India-110007

*Corresponding author: alsharma@cup.edu.in

Supporting Information

1. Computational Details for Dispersion Correction

To incorporate the effect of dispersion interactions in the formation energy, the semi-empirical method proposed by Grimme (DFT-D2) was used.

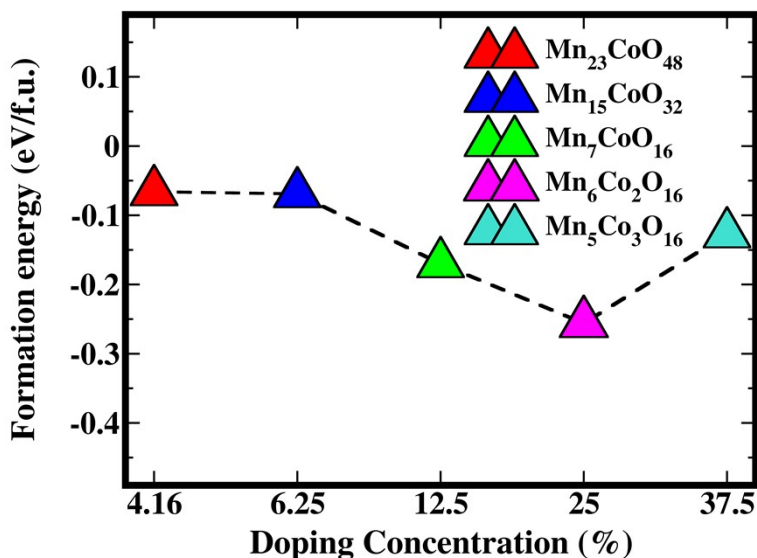


Fig. S1: Variation of formation energy using dispersion correction with increasing doping concentration.