Electronic Supplementary Material (ESI) for RSC Advances

Controlled Synthesis of Spin Glass Nickel Oxide Nanoparticles and Evaluation of their Potential Antimicrobial Activity:

A Cost-Effective and Eco-Friendly Approach

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Supporting Information

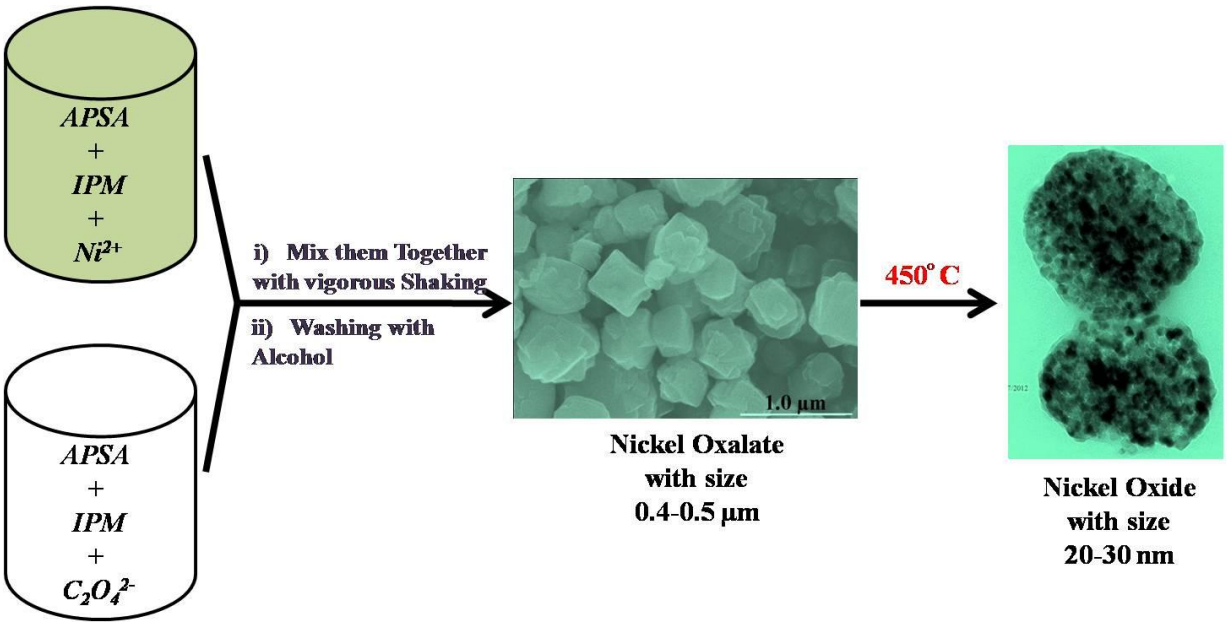

Fig S1 : Scheme of Synthesis of NiO Nanoparticles

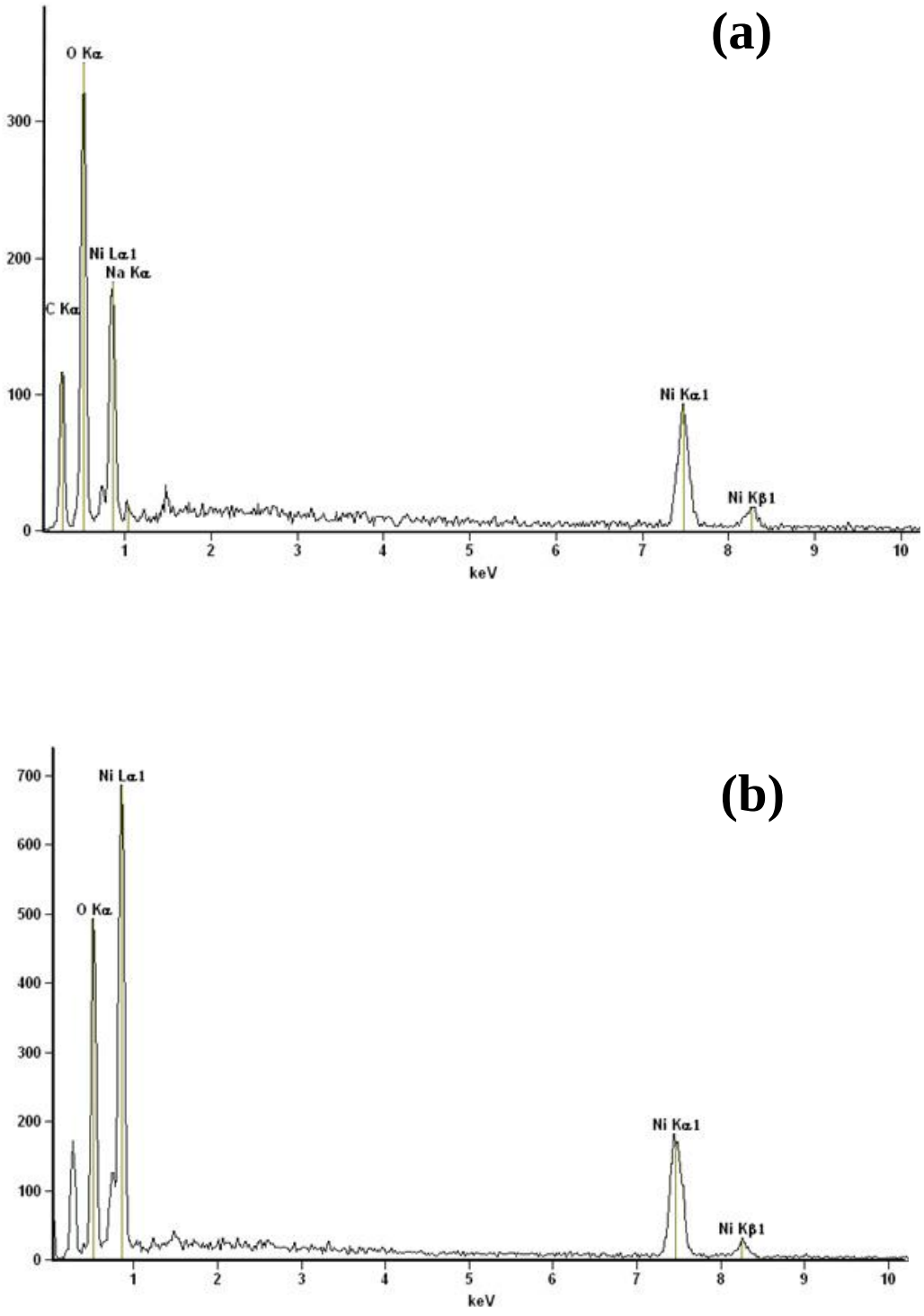

Figure S2: Energy dispersive X-ray spectrum of (a) Nickel Oxalate and (b) Nickel Oxide Nanoparticles

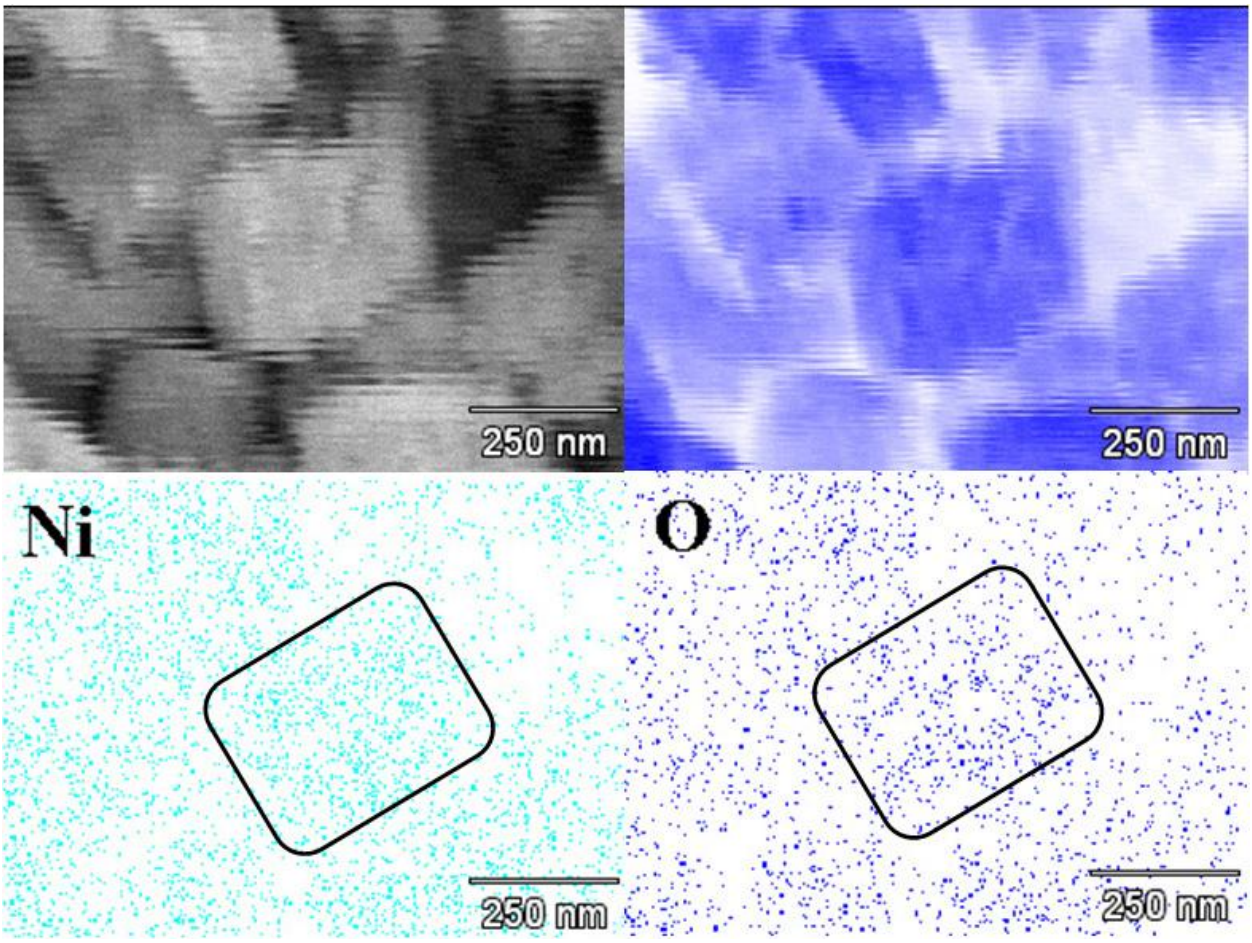

Figure S3: Elemental Mapping of Ni and O in NiO

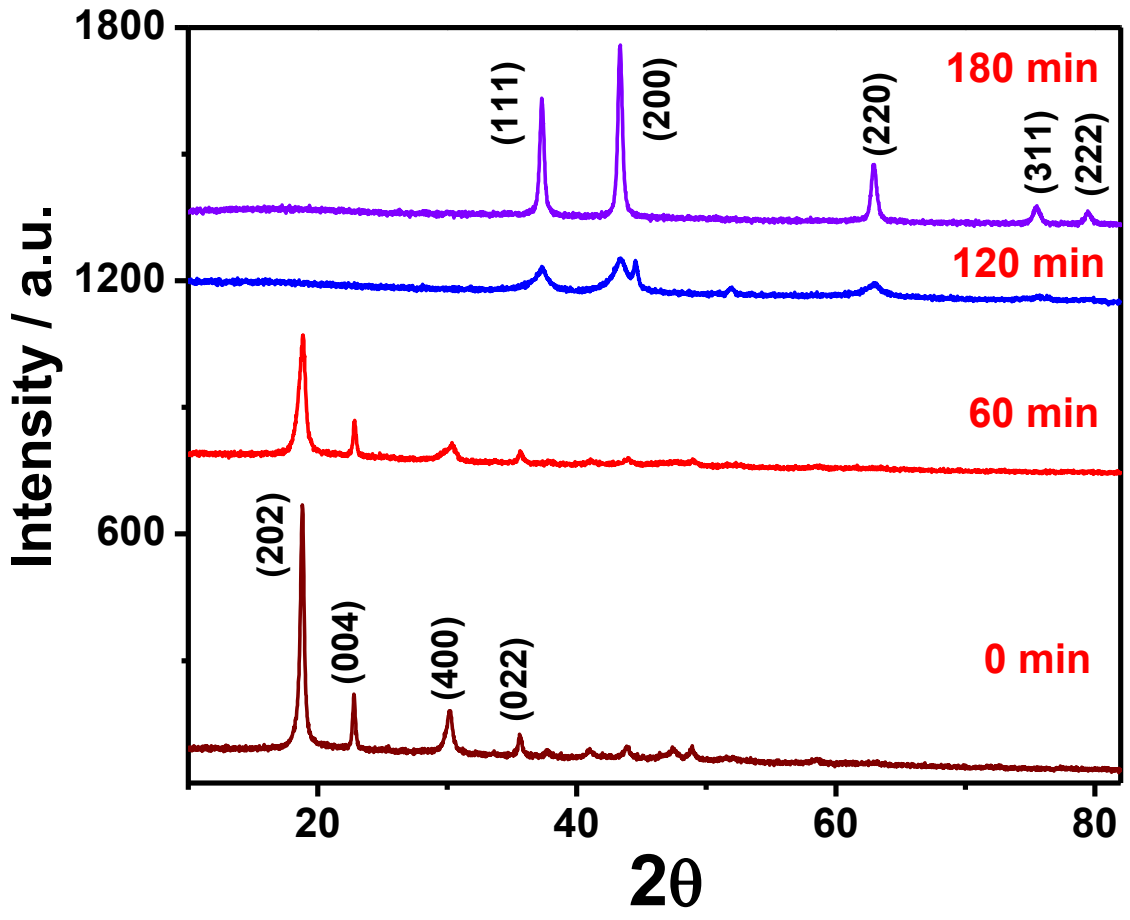

Figure S4: XRD patterns of Nickel oxalate and the products after calcining it for 60, 120 and 180 minutes

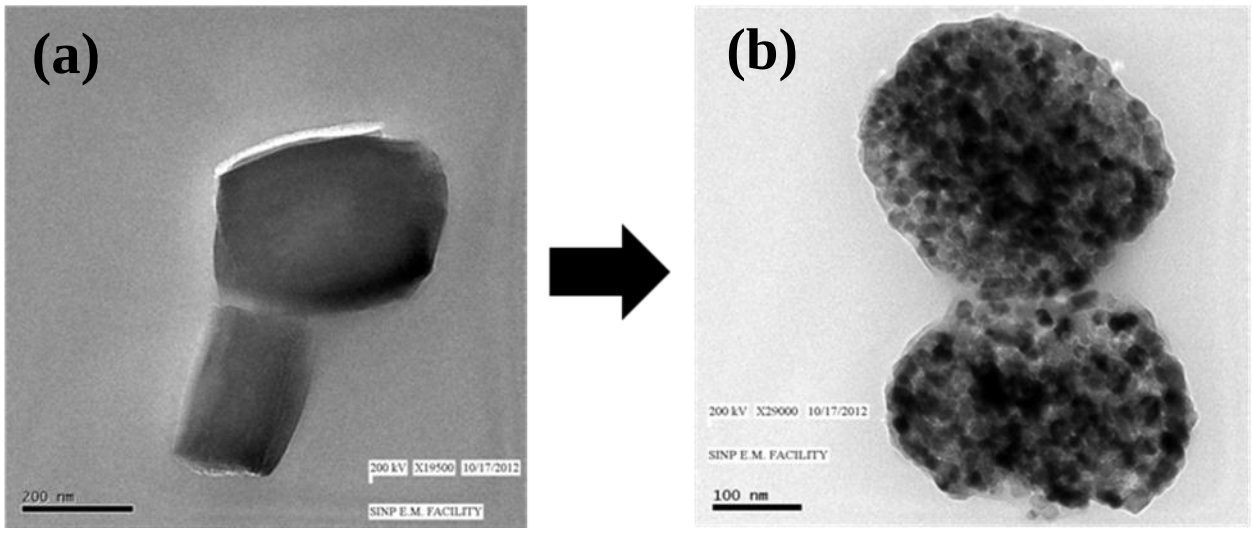

Figure S5: (a) Nickel Oxalate parallelograms and (b) showing distribution of NiO NPs within the parallelogram which is a clear indication of retaining the same structure even after calcinations.

Bacteria	Nanoparticles	Size (nm)	Reported MIC & MBC (µg/ml)	Zone of Inhibition (mm)	Reference
B. subtilis	Ag	2-10	MIC-40 MBC-60	NM	1
	Cu	7-16	MIC-20 MBC-40	NM	1
	CuO	27	MIC-70 MBC-95	15	2
	ZnO	20	MBC-12	NM	3
	NiO	20-30	MIC-8 MBC-32	21	This Work
P. aeruginosa	Ag	20	MIC-3.5 MBC-3.5	13.5	4
	CuO	27	MIC-55 MBC-85	10	2
	ZnO	20	MBC-14	NM	3
	NiO	20-30	MIC-8 MBC-16	18	This Work

Abbreviations: NM- Not mentioned

Table ST1 : Summary of select studies concerning the antimicrobial effects of other metal and metal oxide nanoparticles

1) J. P. Ruparelia, A. K. Chatterjee, S. P. Duttagupta, S. Mukherji, *Acta Biomaterialia*, 2008, **4**, 707
2) A. Azam, A. S Ahmed, M. Oves, M.S. Khan, A. Memic, International Journal of Nanomedicine, 2012, 7, 3527

3) A. Azam, A. S. Ahmed, M. Oves, M. S. Khan, S. S. Habib and Adnan Memic, International Journal of Nanomedicine, 2012, 7, 6003
4) Jamileh Nowroozi, Abbas Akhavan Sepahi, and Afrooz Rashnonejad, Cell J. 2012 Spring, **14(1)**, 7–18.