

## Supporting Information

# Surface Functionalization of Iron oxide Nanoparticles with Gallic Acid as Potential Antioxidant and Antimicrobial agents

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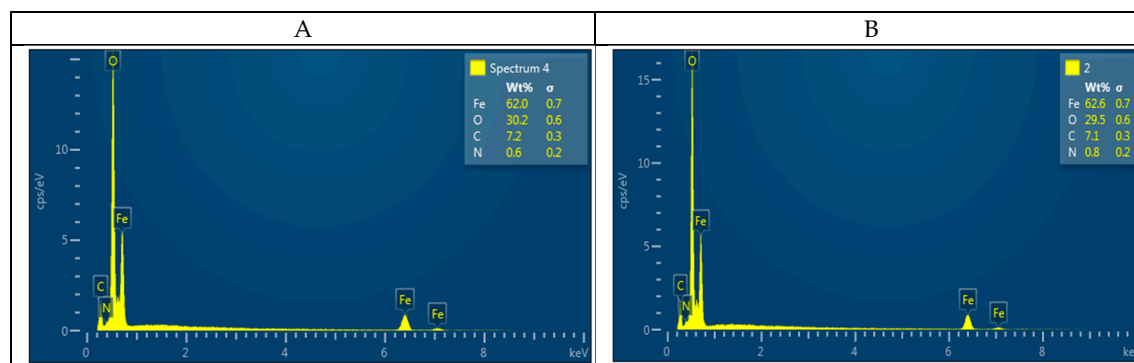


Figure S1 EDX spectrum of IONP@GA1 **A)** Before DPPH assay **B)** After DPPH assay.

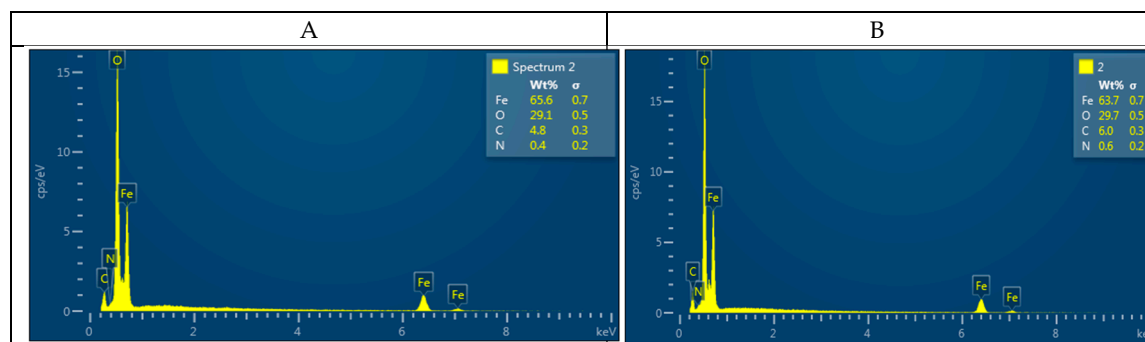


Figure S2 EDX spectrum of IONP@GA2 **A)** Before DPPH assay **B)** After DPPH assay.

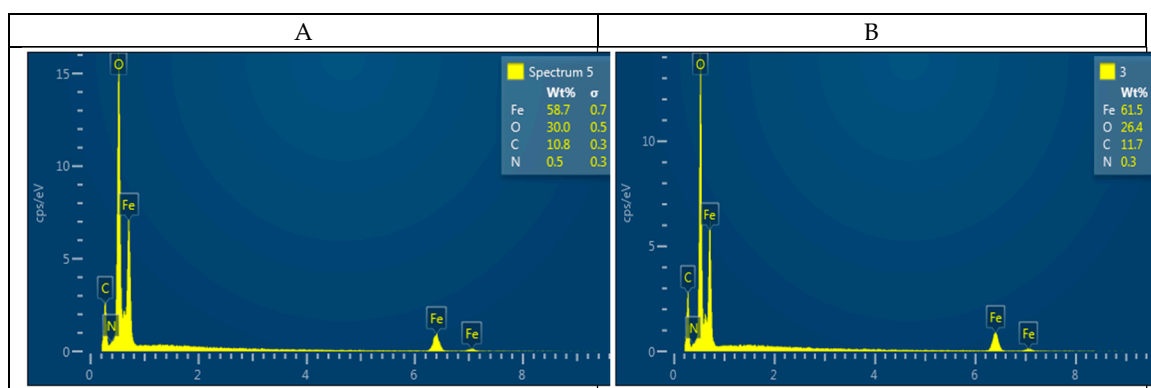


Figure S3 EDX spectrum of IONP@GA3 A) Before DPPH assay B) After DPPH assay.

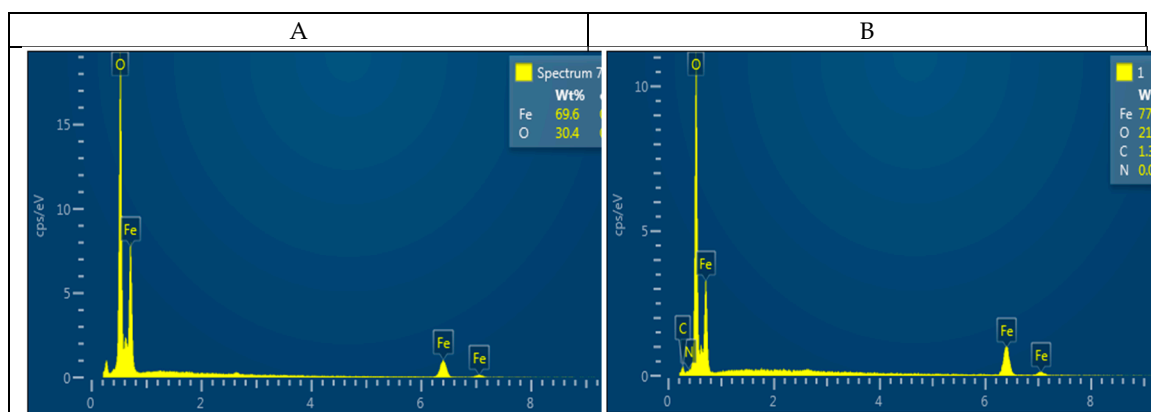


Figure S4 EDX spectrum of IONP A) Before DPPH assay B) After DPPH assay.

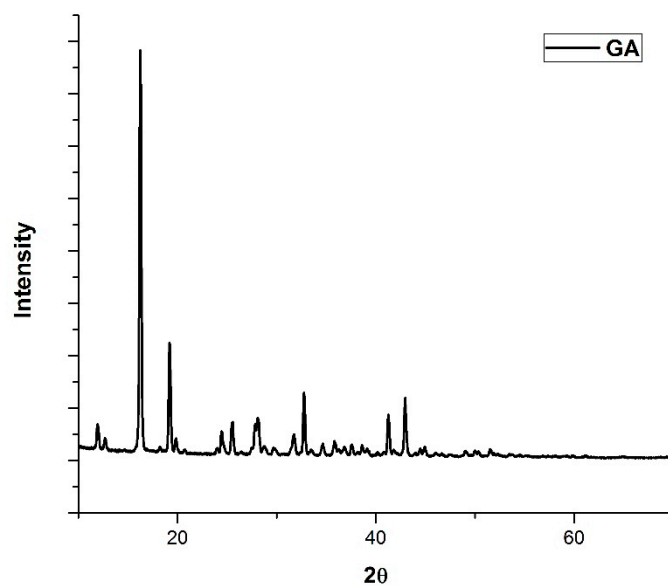


Figure S5. XRD Spectra of gallic acid.

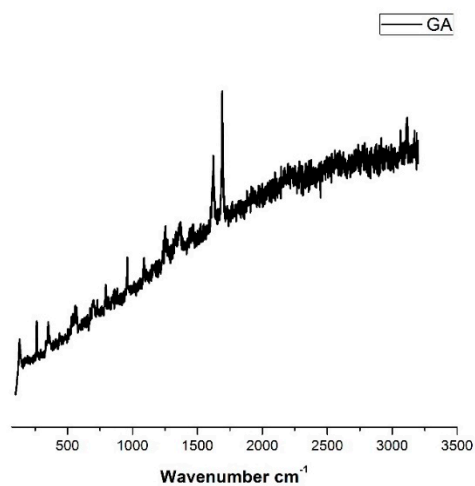


Figure S6. Raman Spectra of gallic acid.

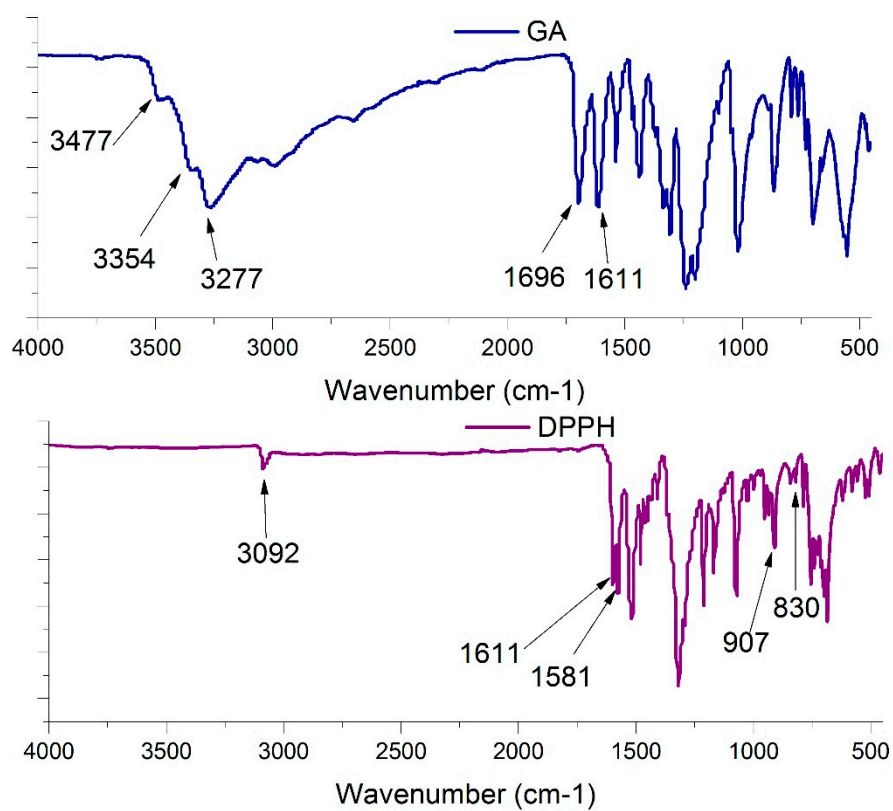


Figure S7. FTIR spectra of gallic acid and DPPH.

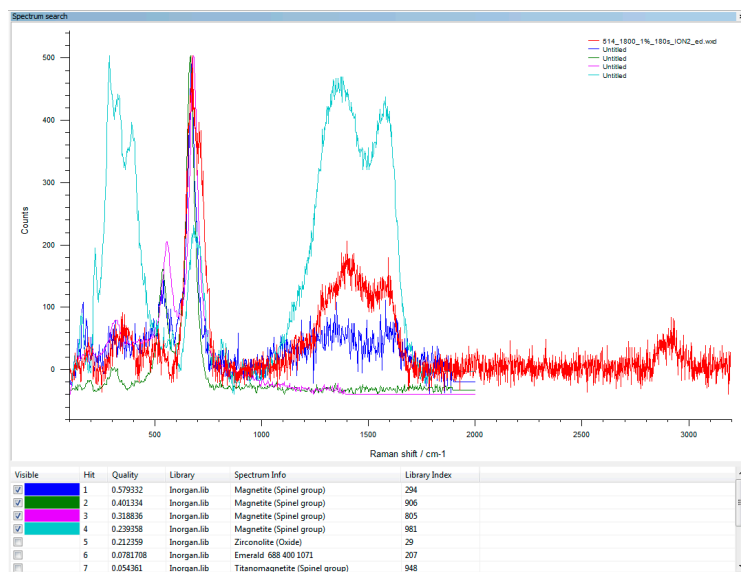


Figure S8. Comparison of Raman Spectra of IONP with commercial Magnetite.

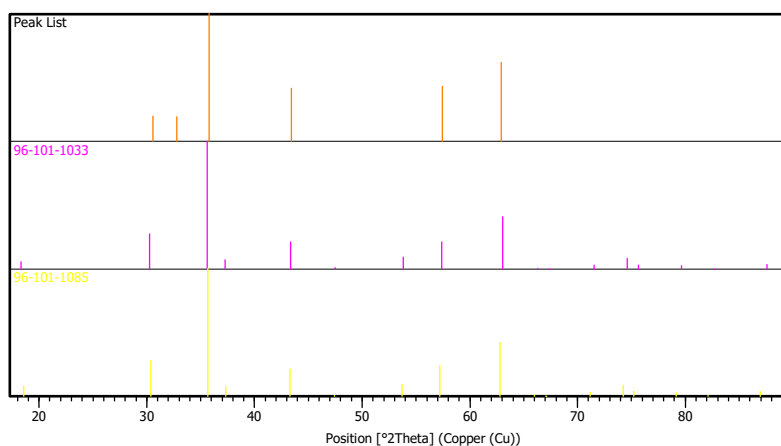


Figure S9. XRD pattern of IONP@GA and JCPDS No 96-101-1033.

Table S1. IC50 of IONP@GA

Conc. (mg)	IONP@GA1	IONP@GA2	IONP@GA3	IONP
5	61	59	78	50
2.5	53	53	70	44
1.25	43	46	47	42
0.625	33	43	46	34