Supporting Information

In Situ Synthesis and Surface Functionalization of Gold Nanoparticles with Curcumin and their Antioxidant Property: An Experimental and Density Functional Theory Investigation

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S1: HPLC data

The data were collected on the HPLC system- Delta 600 series from Waters Corporation and 425 nm wavelength was used for detection. For this purpose the elution was carried out with gradient solvent systems with a flow rate of 1.0 mL/min at ambient temperature. The mobile phase consisted of methanol (A), water (B), and acetonitrile (C). The sample was determined using the above solvents programmed linearly from 45 to 65% acetonitrile in B for 0-15 min. The gradient then went from 65 to 45% acetonitrile in B for 15-20 min, with a constant of 5% A. The compounds were analyzed using HP ChemStation software.

The spectrum shows the absorption peaks of the curcumin used in the study.

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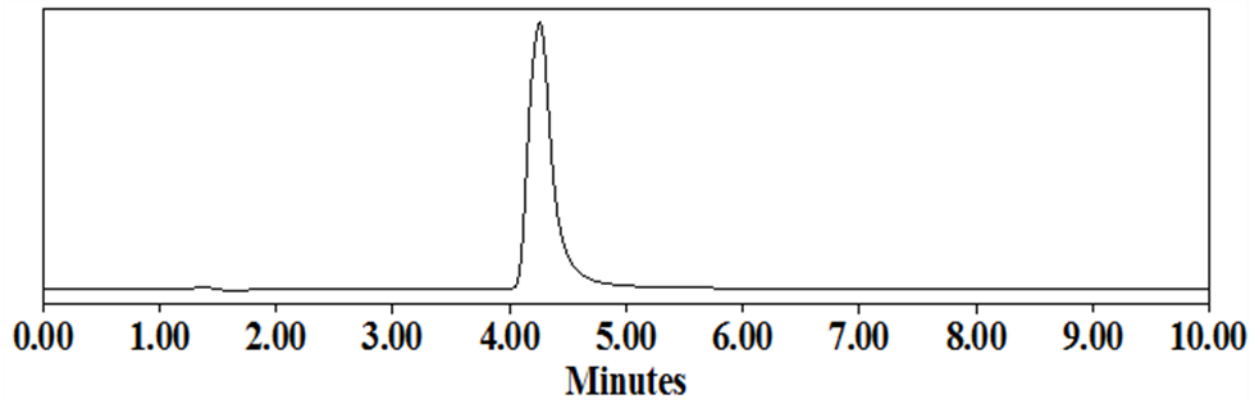
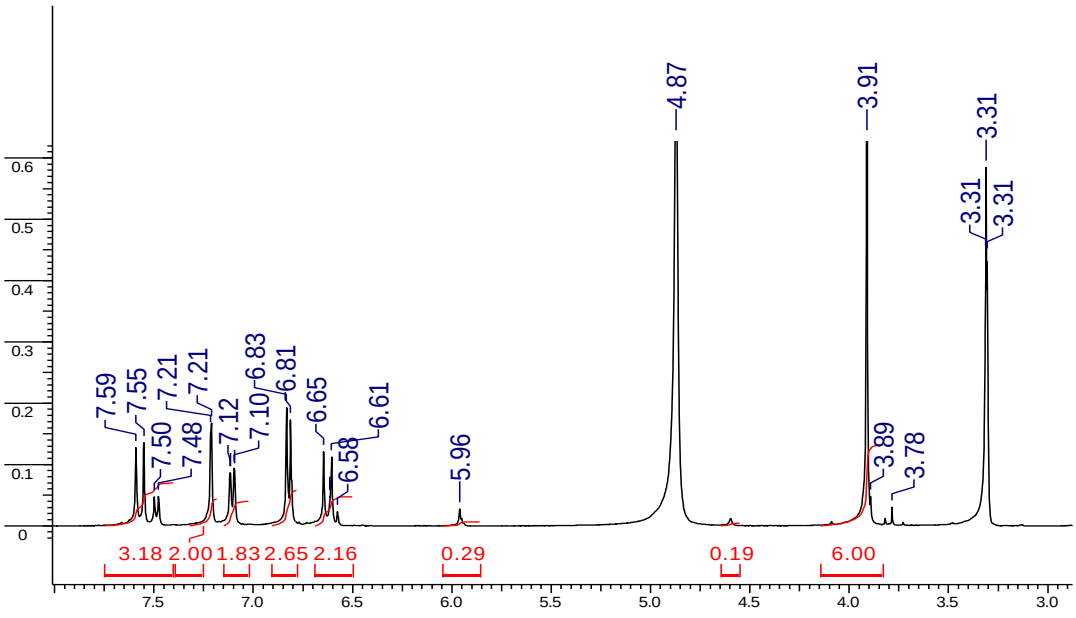


S2: NMR Spectrum of curcumin

NMR spectroscopy was performed on the heat treated curcumin dissolved in deuterated methanol. The ^{1}H NMR spectra was taken using a 400 MHz Bruker AVANCE instrument using a broad band probe with a z-gradient coil. Chemical shifts (δ) are quoted in ppm and are referenced to solvent CD_3OD. Curcumin was dissolved in CD_3OD.


7.59
7.55
7.21
7.21
6.83
6.81
7.12
7.10
6.65
6.61
7.50
7.48
6.58
5.96
4.87
3.91
3.31
3.31
3.31
3.89
3.78
3.18
2.00
1.83
2.65
2.16
0.29
0.19
6.00
0.6
0.5
0.4
0.3
0.2
0.1
0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0

S3: UV- visible spectroscopy of curcumin in methanol.

The spectrum was obtained using a Cary 50 UV/vis spectrophotometer at a resolution of 1 nm.