

# Synthesis and characterization of gold-shell magnetic nanowires for theranostic applications

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## 1. Highlight section

- Gold shell magnetic nanowires were prepared by combining the pulse electrodeposition technique with the electroplating technique;
- The as-prepared core-shell nanowires microstructure, dimensions and chemical composition can be easily controlled by using this approach;
- An increase of the biocompatibility properties was observed when the gold-shell is plated;
- The CoFe@Au core-shell nanowires can be successfully used for theranostic application, the nanowires manifesting a high capacity of tumor destruction through a magneto-mechanical process, as well as a high  $r_2$  value.

## 2. XRD characterization

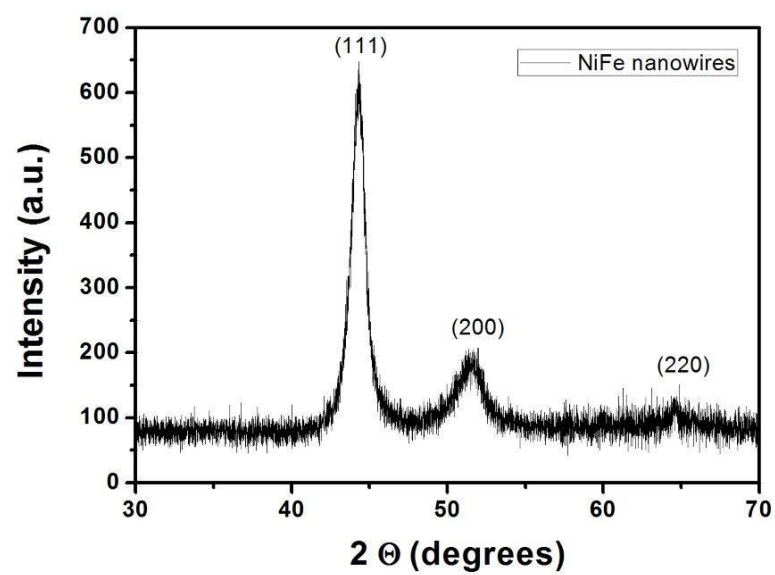


Figure S1. XRD patterns of the NiFe nanowires arrays

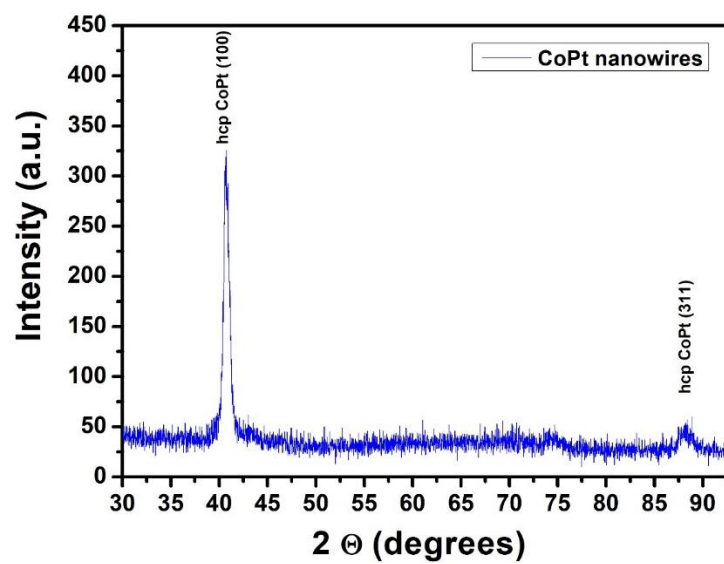


Figure S2. XRD patterns of the CoPt nanowires arrays

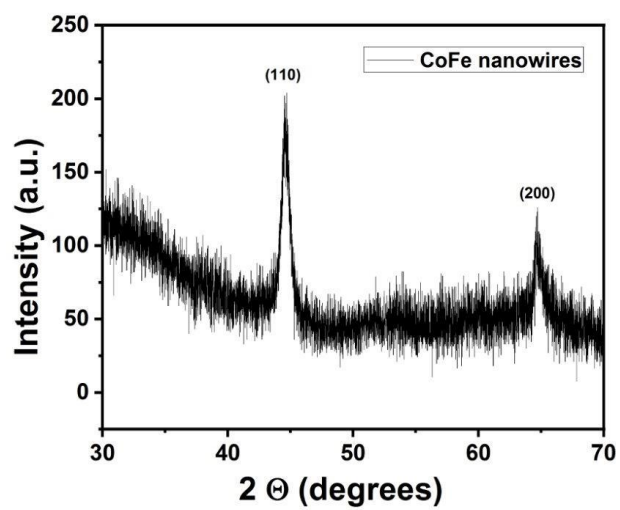


Figure S3. XRD patterns of the CoFe nanowires arrays

## 2. SEM picture of the core-shell nanowires

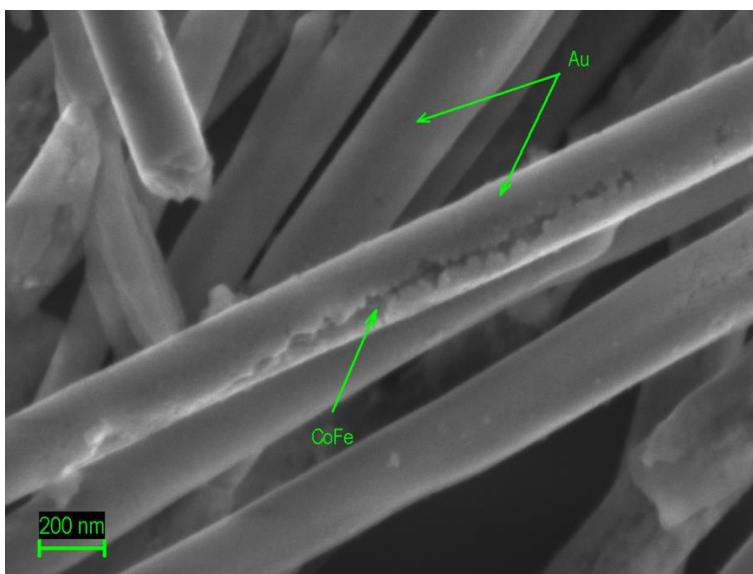


Figure S4. SEM picture of the CoFe@Au core-shell nanowires