

## Electronic Supplementary Information

### The effect of shell modification in iron oxide nanoparticles on electrical conductivity in polythiophene-based nanocomposite

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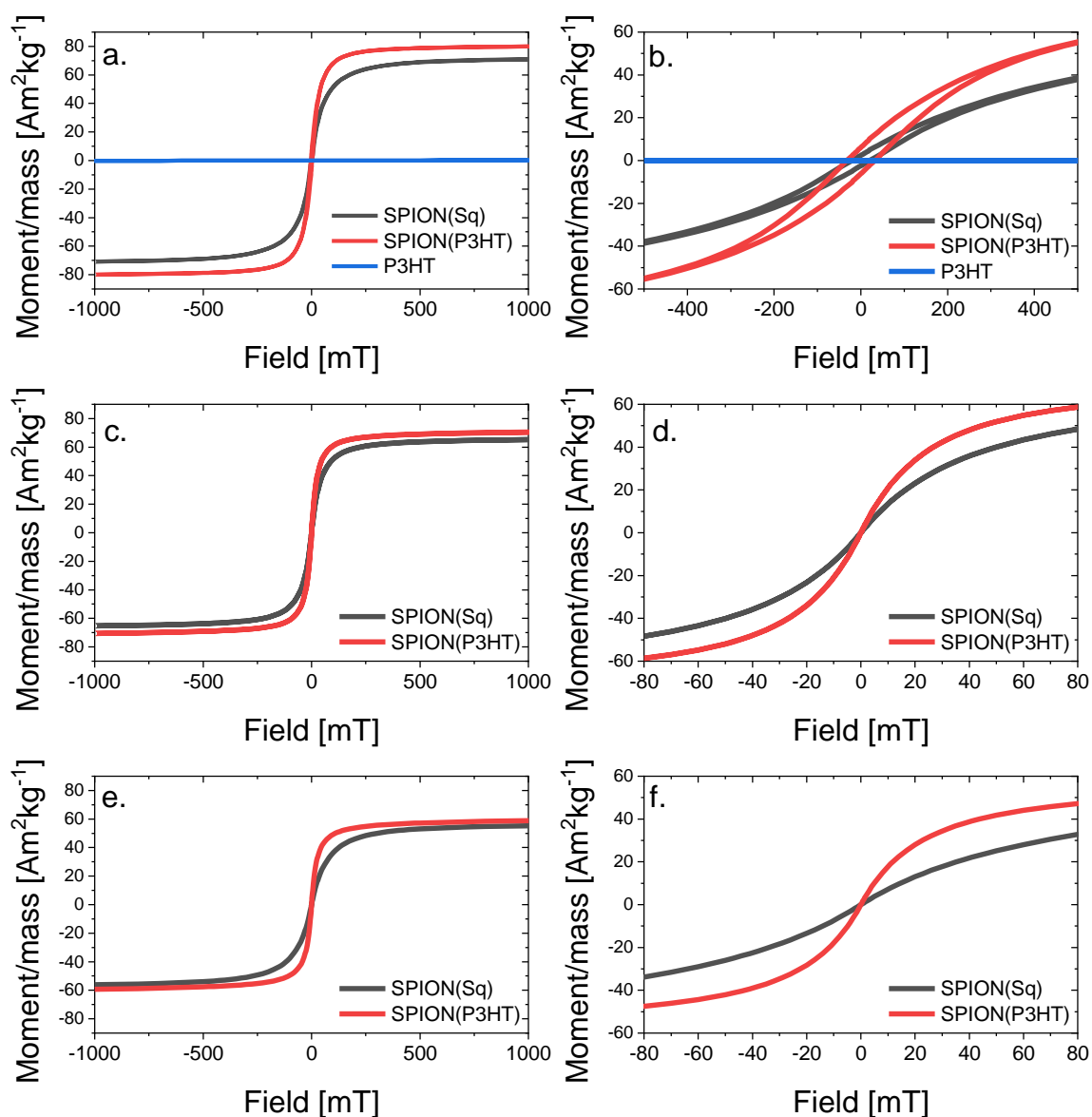


Figure 1. M-H loops for powder samples of P3HT, SPION(P3HT) and SPION(Sq) in three different temperatures, namely: (a, b) 80 K, (c, d) 290 K, (e, f) 440 K

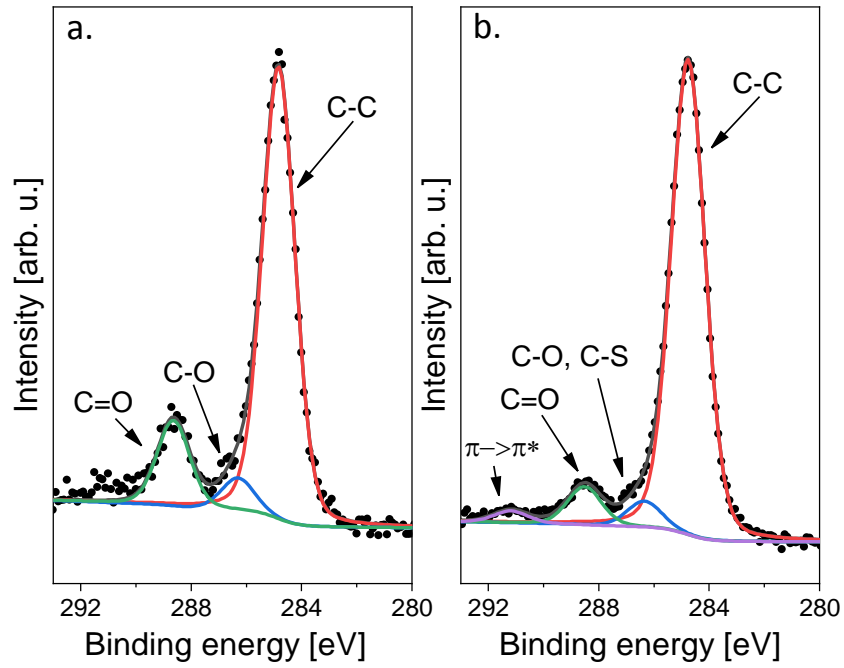


Figure 2. XPS spectra of C 1s region acquired for (a) SPION(Sq) and (b) SPION(P3HT)

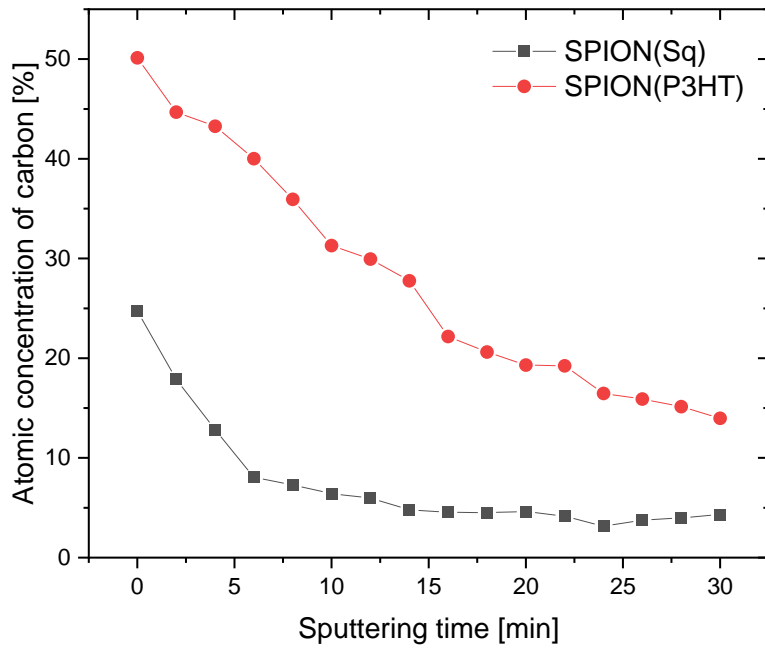


Figure 3. XPS derived changes of atomic concentration in SPION(Sq) and SPION(P3HT) samples during Ar-GCIB sputtering