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Synthesis and Characterization of Nanomaterial Based on Halloysite and Hectorite Clay Minerals Covalently Bridged

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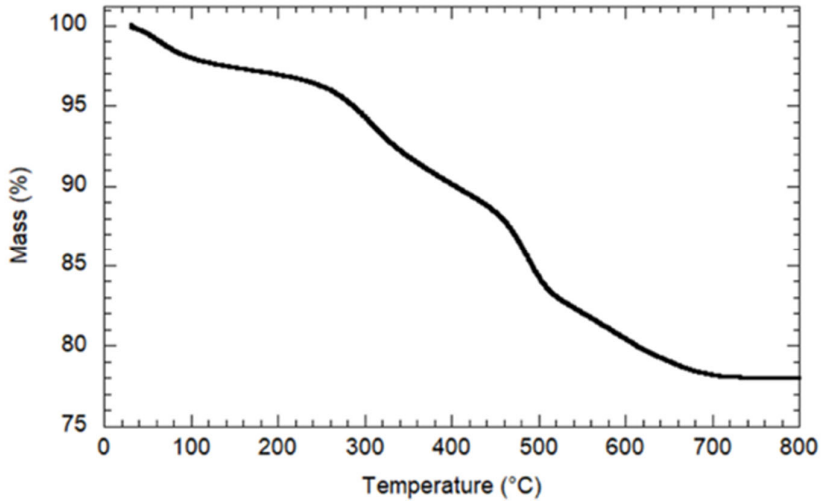


Figure S1. Thermogravimetric curve for HNTs-Ht nanomaterial.

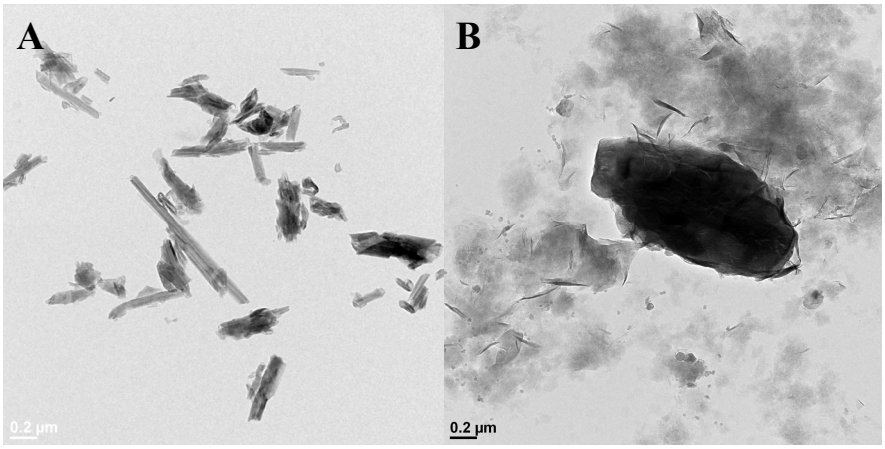


Figure S2. TEM images of (a) pristine HNTs; (b) pristine Ht.

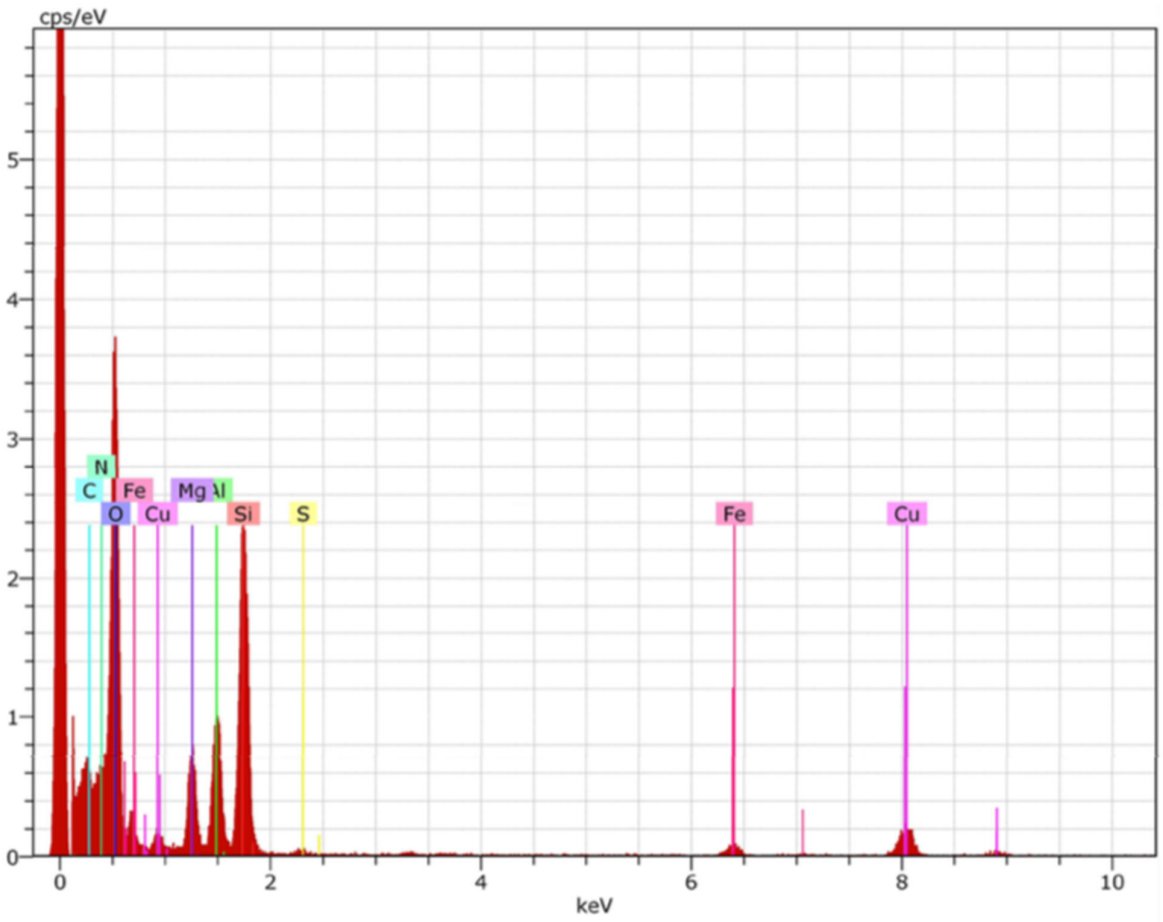
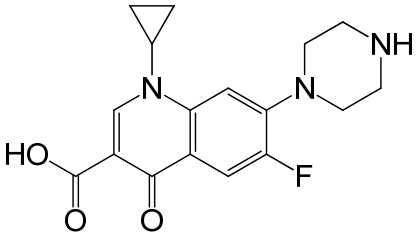
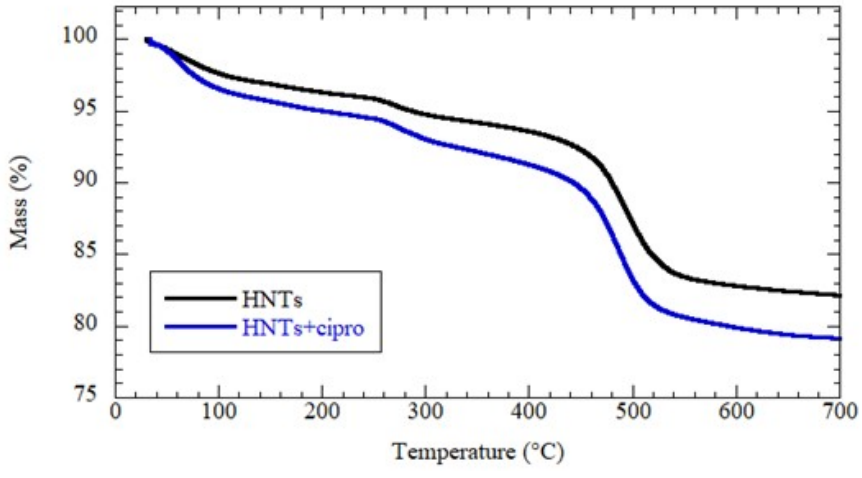


Figure S3. EDX spectrum of the HNTs-Ht nanomaterial.

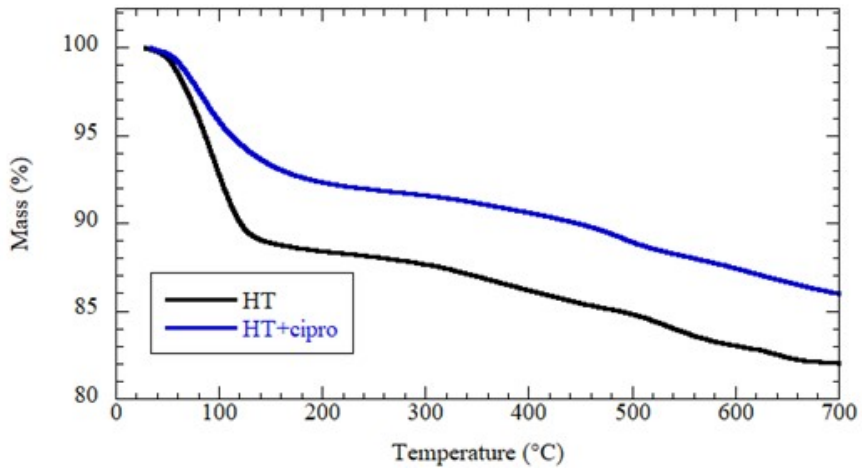


Ciprofloxacin is widely used as antibiotics to treat several types of inflammations including skin infections since they are among the most used broad-spectrum antibiotics active against both Gram-positive and Gram-negative bacteria (Campoli-Richards et al., 1988).

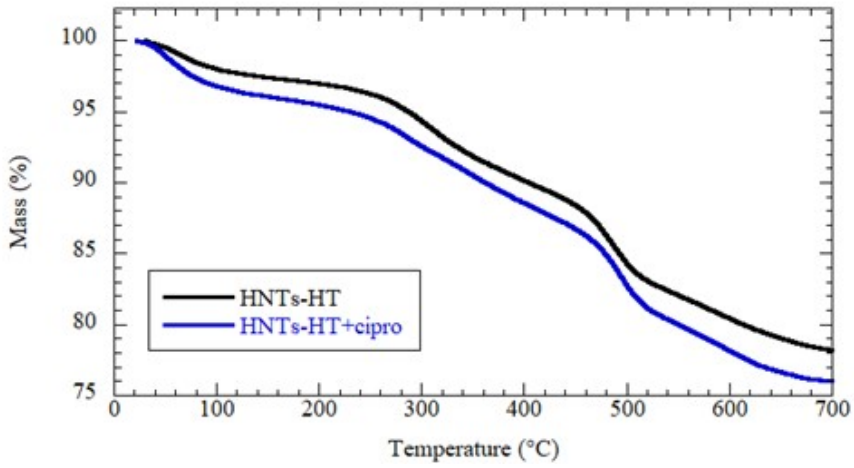
Ciprofloxacin is a zwitterionic molecule which possesses a pH-dependent speciation (pK_{a1} = 6.1 and pK_{a2} = 8.7), it is soluble in acidic aqueous medium, but it is insoluble in alcohols. Therefore, ciprofloxacin exists mainly in cationic form at pH < 4.0, in cationic and zwitterionic form at 4.0 < pH < 8.0 and in anionic form at pH > 8.0 (Li et al., 2017).



(a)



(b)



(c)

Figure S4. Thermogravimetric curves of (a) HNTs, (b) Ht and (c) HNTs-HT nanomaterials loaded with ciprofloxacin.

References

1. Campoli-Richards, D.M., Monk, J.P., Price, A., Benfield, P., Todd, P.A., Ward, A., 1988. Ciprofloxacin. Drugs 35, 373-447.
2. Li, S., Zhang, X., Huang, Y., 2017. Zeolitic imidazolate framework-8 derived nanoporous carbon as an effective and recyclable adsorbent for removal of ciprofloxacin antibiotics from water. Journal of Hazardous Materials 321, 711-719.