

Supporting Information

Fe₃O₄ Magnetic Cores Coated with Metal–Organic Framework Shells as Collectable Composite Nanoparticle Vehicles for Sustained Release of the Pesticide Imidacloprid

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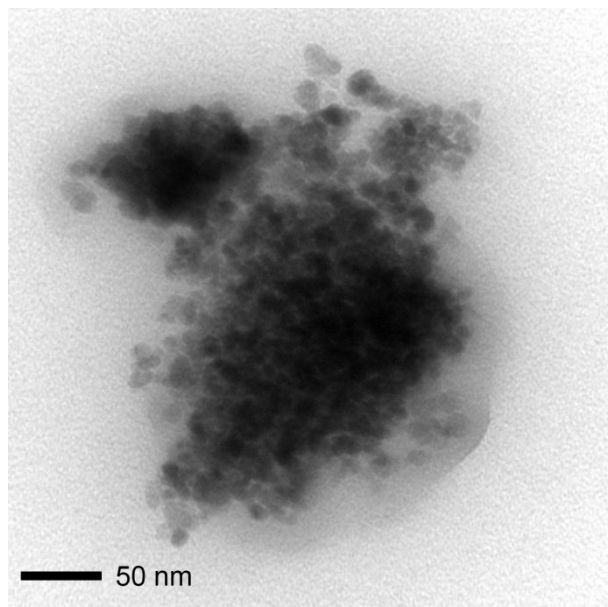


Figure S1. TEM image of $\text{Fe}_3\text{O}_4@\text{PDA}$.

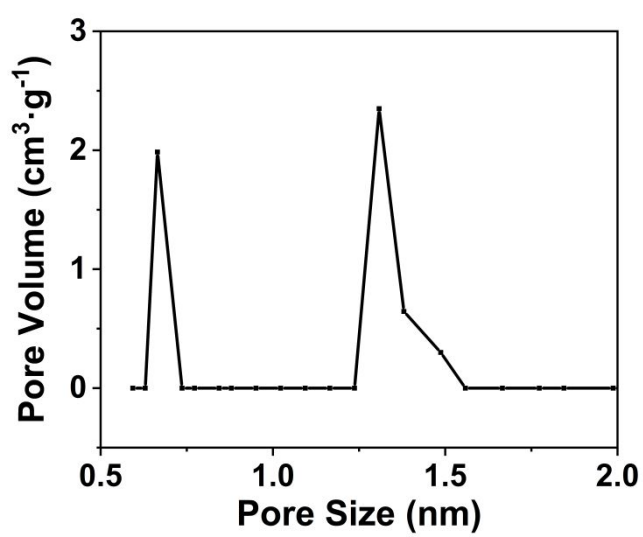


Figure S2. Pore size distribution of $\text{Fe}_3\text{O}_4@\text{PDA}@\text{UiO-66}$.

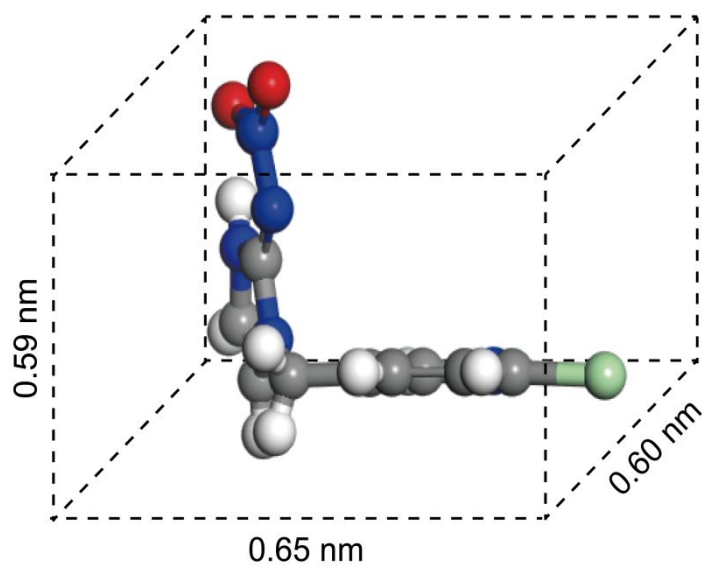


Figure S3. The molecular size of Imidacloprid.¹

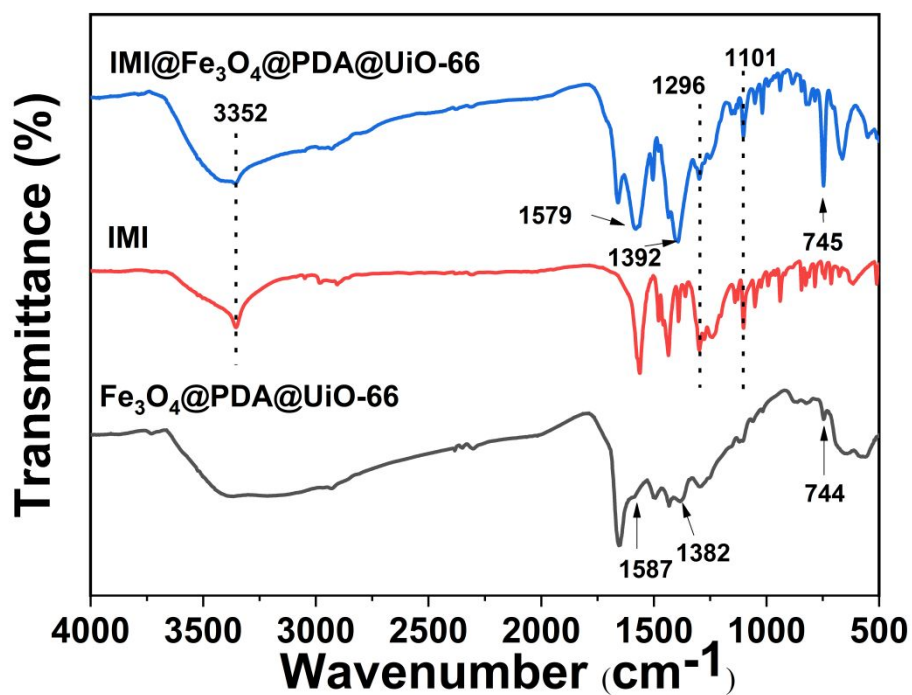


Figure S4. FT-IR spectra of Fe₃O₄@PDA@UiO-66, IMI, and IMI@

Fe₃O₄@PDA@UiO-66, respectively.

Both two bands at 3352 cm^{-1} and 1296 cm^{-1} are assigned to the stretching mode of N–H and N–C of secondary amine of IMI, respectively.² Peak at 1101 cm^{-1} was assigned to the aryl-Cl stretching mode in IMI.³

References

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2. Gao, Z.; Pang, L.; Feng, H.; Wang, S.; Wang, Q.; Wang, M.; Xia, Y.; Hu, S., Preparation and characterization of a novel imidacloprid microcapsule via coating of polydopamine and polyurea. *RSC Adv.* **2017**, *7* (26), 15762-15768.
3. Quintás, G.; Armenta, S.; Garrigues, S.; Guardia, M. d. l., Fourier transform infrared determination of imidacloprid in pesticide formulations. *J. Brazil. Chem. Soc.* **2004**, *15*, 307-312.