DETECTION OF CHLORPYRIFOS FROM CLAY-BIOMIMETIC NANOCOMPOSITE

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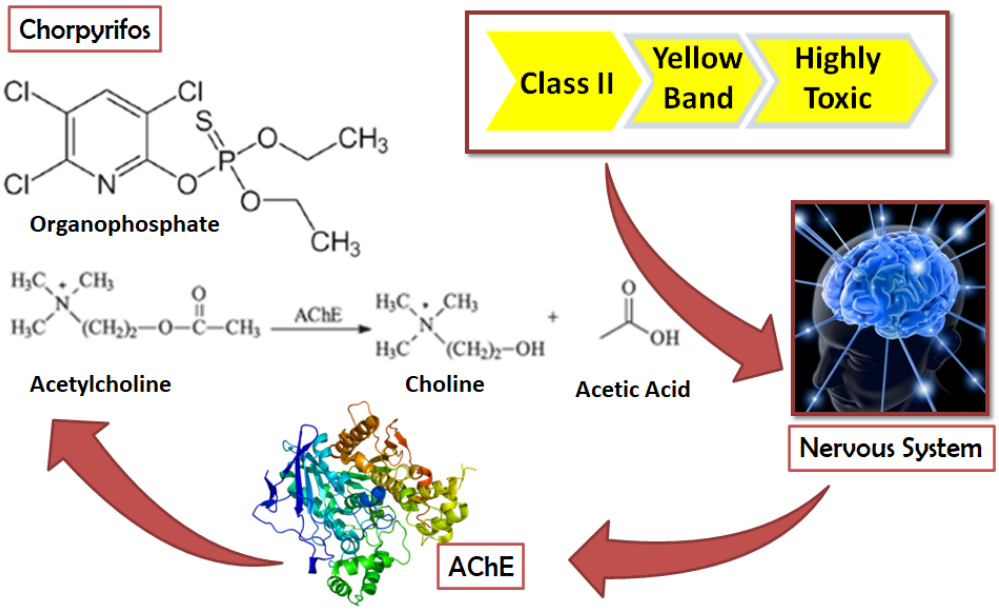
INTRODUCTION



DEVELOPMENT

The nanocomposite was synthesized by mechanical stirring, obtaining a stable suspension, which was used for the modification of a platinum electrode.

The structural and electrochemical characterization was obtained from DSC, SEM, EIS and VC techniques, indicating the effective modification of the clay by the biomimetic molecule, as well as the effective interaction of the composite with the pesticide.

Fig. 1 - SEM obtained for films of Mt-M and Mt-M +Pest

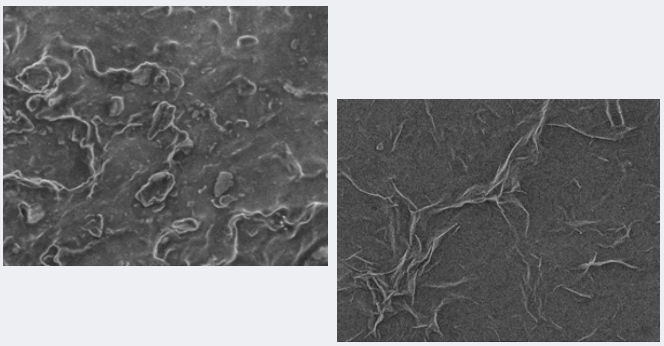
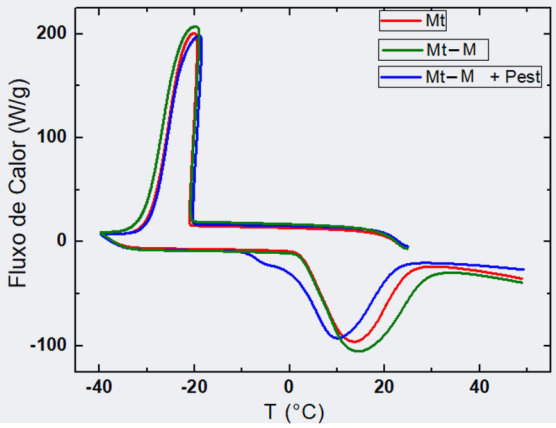


Fig. 2 - DSC curves for Mt, Mt-M and Mt-M +Pest



CONCLUSION

The DSC results revealed a disorganization in the structure of the organophilic clay with the insertion of the pesticide.

The sensors built showed linearity in the concentration range from 10 to 100 nM, with R = 0,9999 for Mt-M, and LOD between 0,141 and 0,240 nM.

The practical usefulness of the sensor was tested on tomato samples, obtaining a recovery percentage between 97 and 102%.

REFERENCES

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2. SGOBBI, L. F.; MACHADO, S. A. S.. Bios. and Bioel. (2018). Pages: 290–297.