

PHOTOCATALYTIC PERFORMANCE OF IRON MODIFIED CARBON NITRIDE USING UV-A IRRADIATION

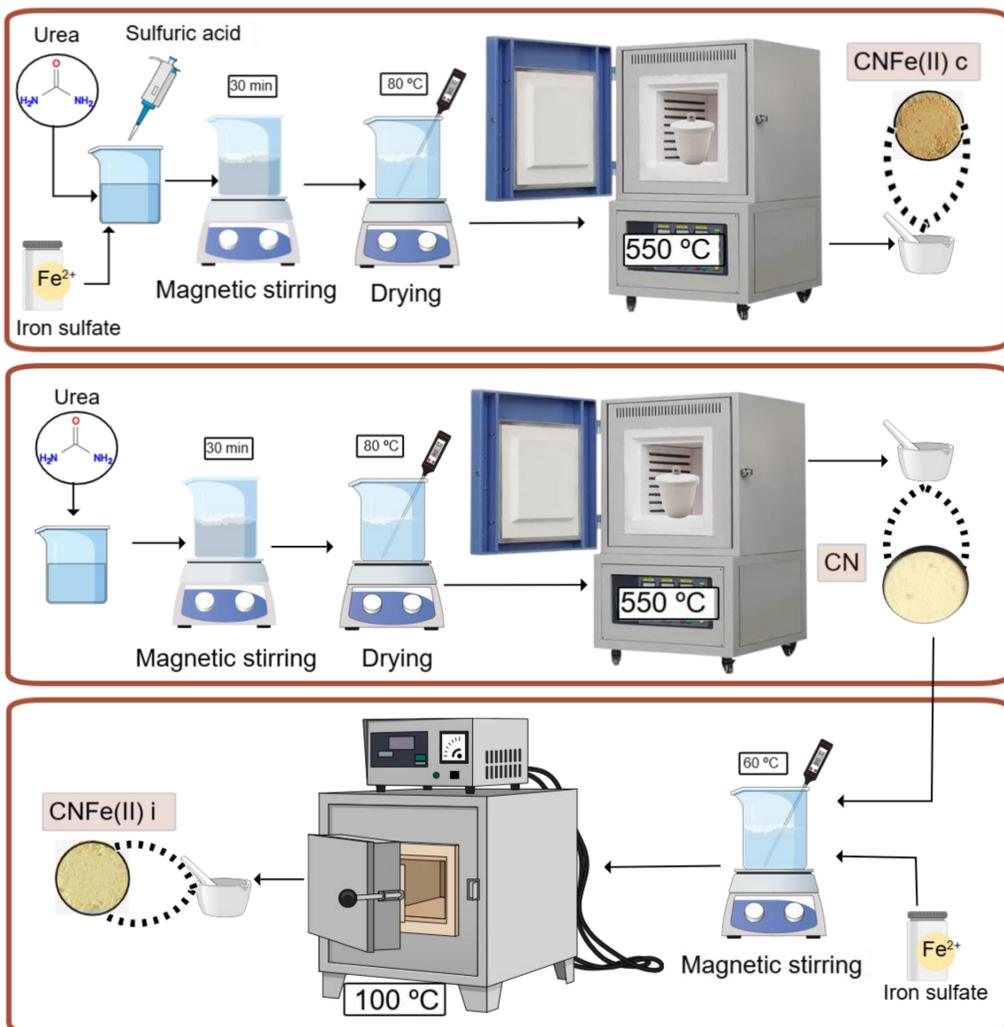
A. I. Montilla Saavedra^a, M. C. Gonzalez^a, P. Caregnato^a

^aInstituto de Investigaciones Físicoquímicas Teóricas y Aplicadas (INIFTA), CCT La Plata, CONICET, Facultad de Ciencias Exactas, Universidad Nacional de La Plata, Diagonal 113 y 64 S/N, B1904DPI La Plata, Argentina

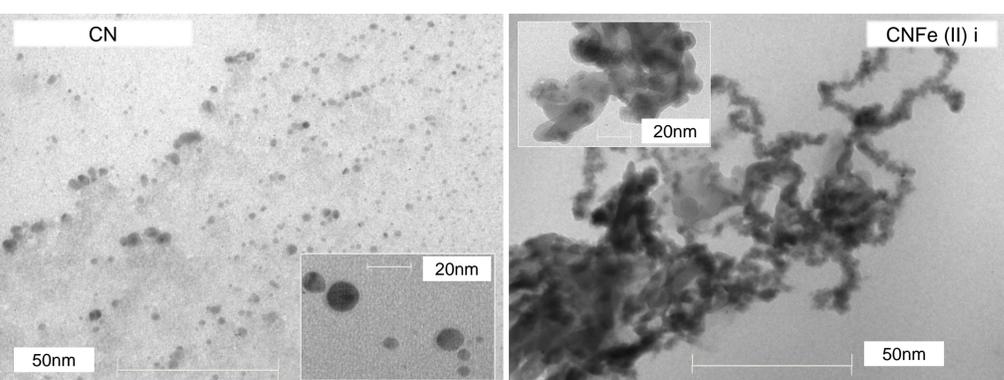
INTRODUCTION

Carbon nitride (C_3N_4) is a semiconductor material that can absorb light in the visible solar spectrum, low cost and easy to manufacture, non-toxic and biodegradable. To overcome its own limitations, strategies have been designed that consider modification with metals, such as iron. In this context, carbon nitride particles (CN) were synthesized from the calcination of urea. Then the CN were modified by applying the calcination and impregnation methods with the Fe (II) salt (CNFe (II)c and (CNFe (II)i, respectively).

SYNTHESIS METHOD

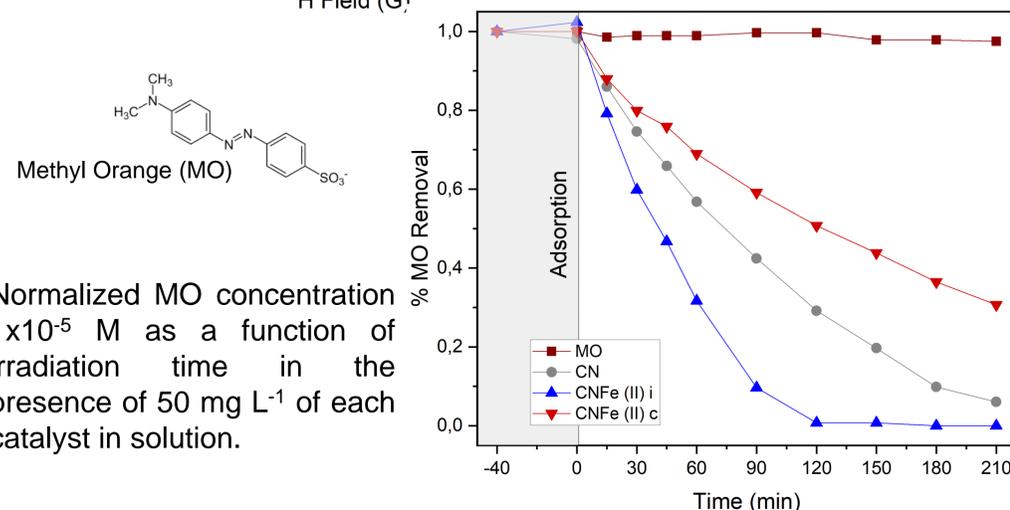
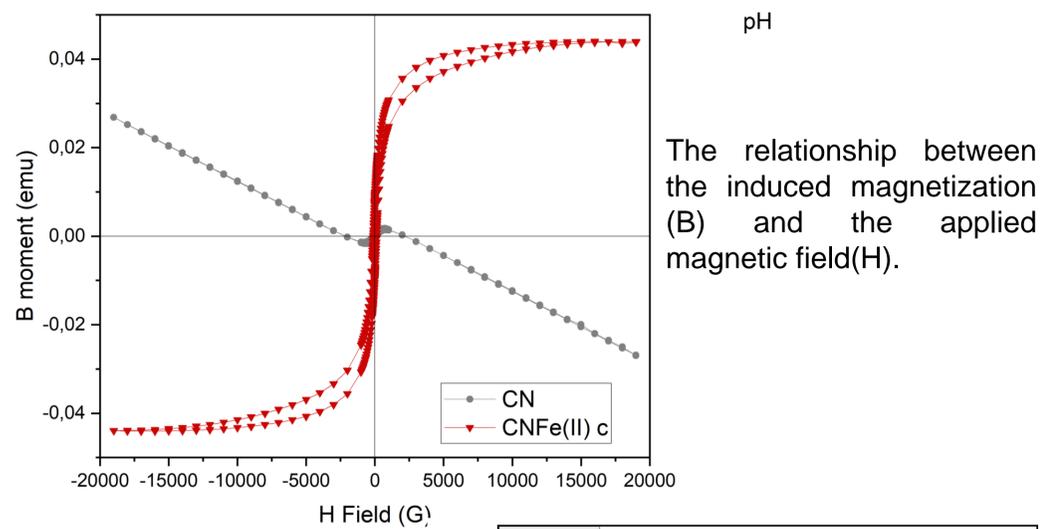
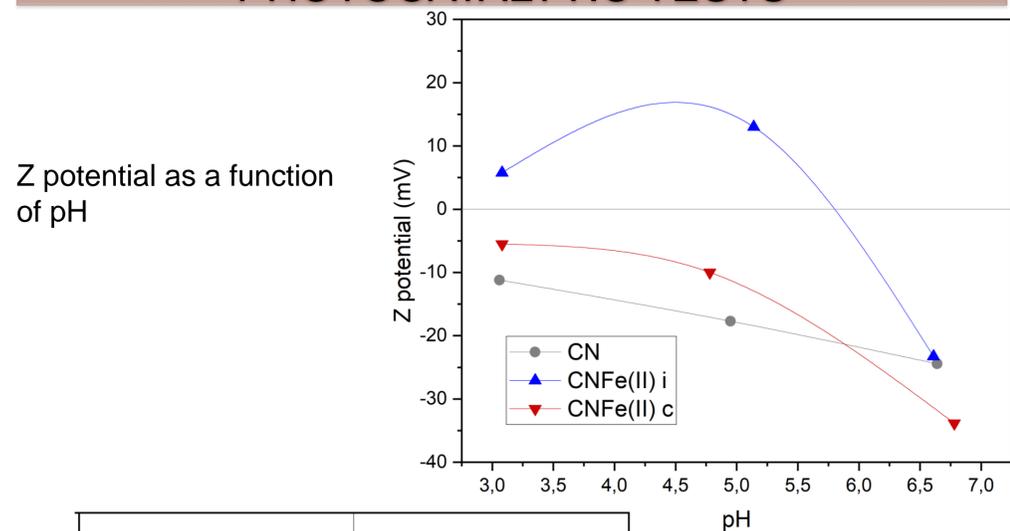


RESULTS & CHARACTERIZATIONS



TEM images of CN and CNFe(II) i

PHOTOCATALYTIC TESTS



CONCLUSION

The synthesis methods significantly influence the characteristics of the catalysts, as evidenced by TEM measurements, Z potential, and their magnetic properties. These characteristics are used to understand the photocatalytic efficiency of the materials. When using methyl orange as an emerging contaminant, CNFe(II)c achieves 68% degradation after 210 minutes, whereas CNFe(II)i reaches 99.9% removal in just 120 minutes.

REFERENCES

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