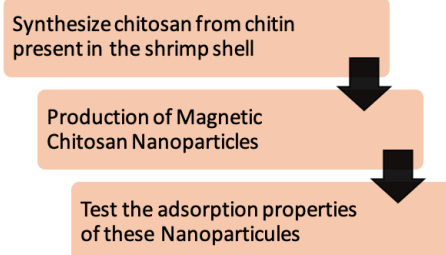


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ABSTRACT

Chitosan is a natural biopolymer, cationic, biodegradable, non-toxic and, therefore, biocompatible. The Magnetic Nanoparticles currently have extensive applications, namely in nanomedicine, bioengineering, magnetic drug delivery systems (MDDSs), biosensors and in improving the quality of medical diagnostic images such as nuclear magnetic resonance imaging (NMR). The importance of biomaterials for the sustainability of the planet is currently a given and inevitable fact and that's also the main theme of this project. Thus, in this project chitosan was synthesized from the chitin of the shrimp shell, and later were developed ferromagnetic particles of chitosan. The functionality of the chitosan nanoparticles was tested in a simple experiment, in which the MNP adsorption capacity for the methylene blue dye was evaluated.

AIMS



METHODS



RESULTS

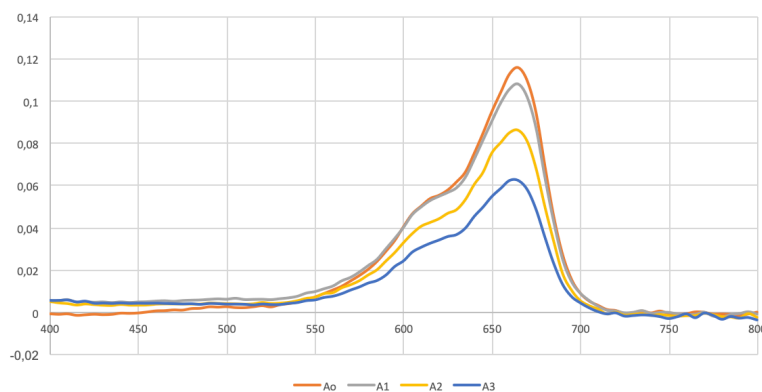
Experience data table

	mass (Adsorbent) mg	[Adsorbent] g/L	[AM] mg/L	Abs UA
A0	0,0	0,0000	0,2000	0,115714
A1	100,8	1,2600	0,1867	0,107997
A2	200,9	2,5113	0,1491	0,086265
A3	301,5	3,7688	0,1079	0,062429

Adsorption obtained values

Sample	Adsorption
A1	0,01056
A2	0,02027
A3	0,02444

Adsorption spectrum of solutions A0, A1, A2 and A3.



MAIN CONCLUSIONS

- Increasing the amount of nanoparticles in the solutions, the absorption values also increase and the concentration of Methylene Blue will drop significantly.
- Based on adsorption values and the drop of the concentration, it is possible to conclude that these nanoparticles have an efficient adsorption of Methylene Blue.
- Due to the results, we can conclude that these magnetic chitosan nanoparticles can be used as a new method for cleaning water.

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