



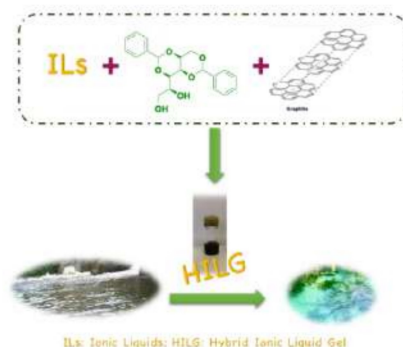
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**Carbon-doped Ionic Liquid Gels for simultaneous removal of emerging pollutants from water**

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Contamination of water bodies is a pressing issue of present-day society, exacerbated by their wide structural variety. It is therefore necessary to develop systems able to remove multiple pollutants simultaneously. In this context, we prepared and characterized supramolecular hybrid ionic liquid gels of 1,3:2,4-dibenzylidene-D-sorbitol (DBS), doped with carbon materials such as graphite, carbon nanotubes, graphene and graphene oxide. We employed these gels as sorbents for the simultaneous removal of pollutants of different classes, such as dyes and emerging pollutants like drugs and bisphenol A.



We firstly characterized the gels in terms of thermal stability, rheology and self-healing ability. Then, we tested them as sorbents for pollutants in aqueous mixtures, observing high removal efficiency and high recyclability, especially in the case of the graphite-doped gel, which achieved adsorption capacities as high as 117 mg/g and 66 mg/g for rhodamine B and bisphenol A in mixture, with a distinct preference towards cationic contaminants.

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**References:**

[1] T. O. Ajiboye, O. A. Oyewo, D. C. Onwudiwe, *Chemosphere* 2021, 262, 128379.