

Effect of varying amine functionalities on CO₂ capture of carboxylated graphene oxide-based cryogels

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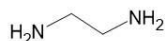
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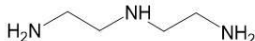
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Supplementary file

Diethylenediamine (EDA)



Diethylenetriamine (DETA)



Triethylenetetramine (TETA)



Fig. 1. Structure of the modifiers employed for the functionalization with amine groups

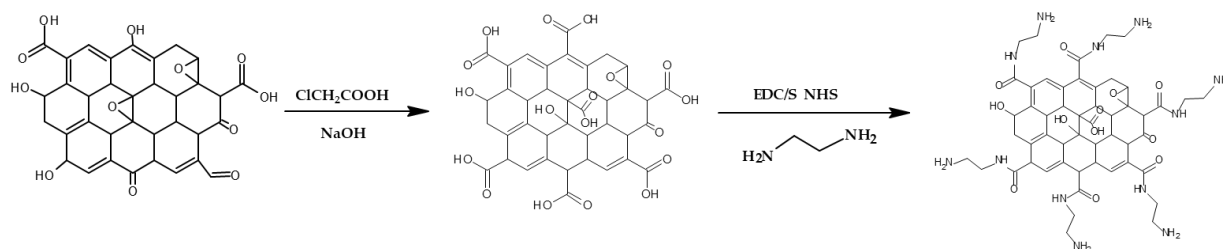


Fig. 2. Scheme for the GO reaction with amine modifiers (e.g. EDA)



Fig. 3. Schematic of the synthesis process for the amine modified GO-COOH cryogels



Fig. 4. Digital images of obtained cryogels as a function of amine modifier.

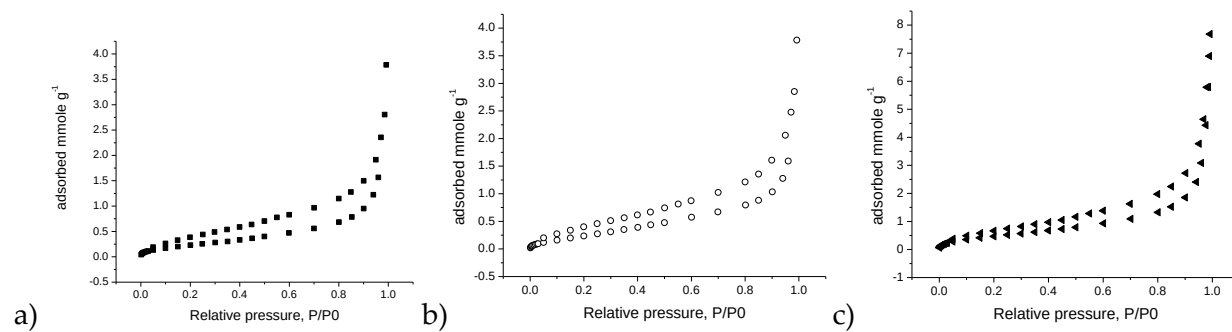


Fig. 5. BET adsorption/desorption isotherms for EDA (a), DETA (b) and TETA (c) modified GO-COOH cryogels.

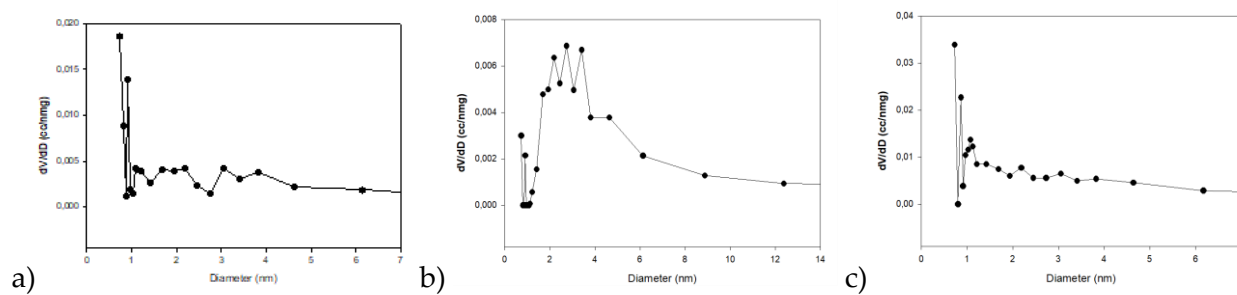


Fig. 6. Pore size distribution from adsorption curves for EDA (a), DETA (b) and TETA (c) modified GO-COOH cryogel.

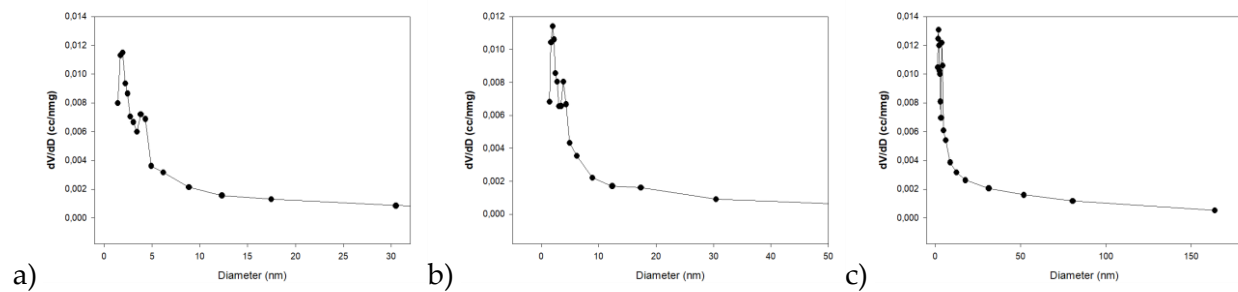


Fig. 7. Pore size distribution from desorption curves for EDA (a), DETA (b) and TETA (c) modified GO-COOH cryogel.

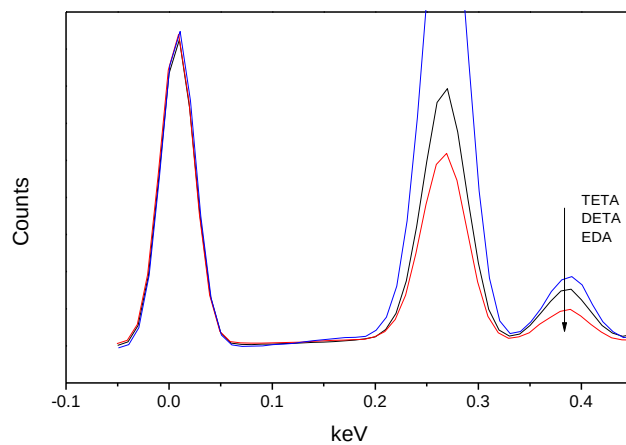


Fig. 8. EDAX spectra showing evolution of N content (arrow indicated) for the GO-COOH cryogel with amine modifier type.