

Applications of Graphene Oxide and Graphene Oxide Derivatives

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The graphene-based materials (GBM) include graphene oxide (GO), reduced graphene oxide (rGO), or pristine graphene, with their potential applications mainly driven by their production capacity and chemical and physical properties. Among GBM, rGO is similar to pristine graphene in powder form and can be made from GO through a reduction process. The main advantage over pristine graphene is that rGO can be highly functionalized thanks to the remaining oxygen and “broken bonds” providing specific features such as the adsorption ability, oxidation ability, and electron conductivity which makes the rGO more compatible for a wider list of applications.

Abalonyx is a Norwegian SME specialized in production of GO and derivatives of GO such as rGO. Abalonyx was established in 2005 with the purpose to develop super-tough surface coatings based on 2D-materials. Since 2015, we had established a safe production method and a reactor for production of 1 Kg batch size GO and rGO.

Abalonyx is still heavily R&D-intensive and our R&D-activities are being done through close collaboration with universities and research institutes. In this work, we show the latest developments in GO and rGO products with highlighting the emerging applications of these products obtained through EU projects and R&D activities.

References

[1] www.abalonyx.no

Figures

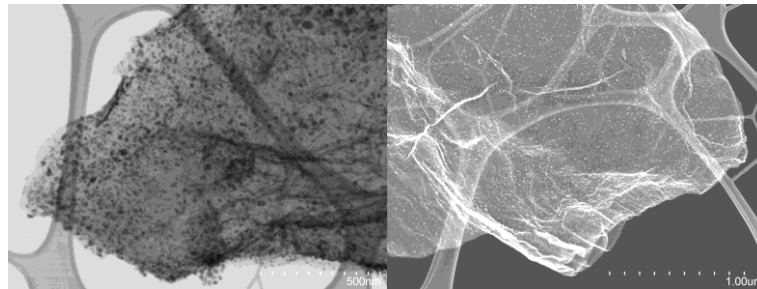


Figure 1: TEM images for GO/TiO₂ nanocomposite for supercapacitors