

Universal functionalization strategy with perfluoropolyethers for the family of carbon-based nanostructured materials

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Carbon is fourth most abundant chemical element in universe and, thanks to its peculiar electronic structure, it is the main building block of organic chemistry giving rise to countless different molecules. Moreover, carbon atoms can arrange to build nanostructures of different dimensionality, shape and properties that are nowadays extensively exploited in many technologies and applications. Even more interestingly, carbon nanomaterials can be efficiently modified with functional molecules, altering their structural and electronic structure at various extension degrees, broadening the range of properties and widening fields of application. In this work, our experience on chemical grafting of perfluoropolyether (PFPE) chains to carbon nanostructures is reviewed and purposed as suitable and universal approach for PFPE covalent functionalization to the whole family of carbon-based nanostructured materials (Fig. 1) [1-3].

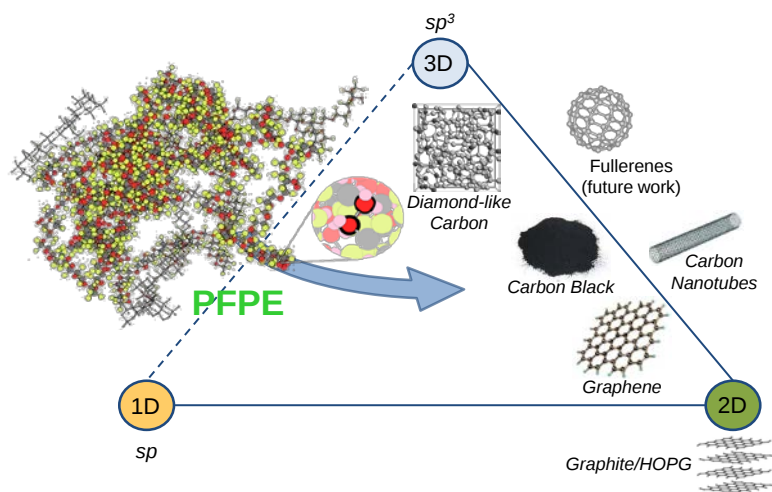


Figure 1. Scheme of chemical graftings with PFPE chains to several carbon-based materials.

References

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