Technology Summary
This invention is a single-step fabrication process for the deposition of carbon coatings with controllable fraction of amorphous, graphitic-like and diamond-like phases. Some of these coatings (the diamond-like nanostructures) are translucent, chemically inert and possess anti-corrosive properties; therefore, have strong potential for applications in photovoltaic solar cells, field emission devices and artificial bioimplants. The synthesis technique is a much quicker and less expensive approach for the deposition of carbon coatings compared to current techniques, since it is catalyst- and reagent-free and does not require multistep and time-consuming procedures. The deposition process takes place at atmospheric pressure and low substrate temperatures ranging within 60-225°C, determining the usability of the method even to materials with low thermal stability (e.g. plastic, wood, etc.).

Technology Status
This invention has been prototyped and tested. Patent pending: U.S. and foreign rights available. A publication describing a portion of this technology can be found at the following link: http://pubs.rsc.org/en/content/articlepdf/2016/ra/c6ra06436a

This technology is available for licensing to industry for further development and commercialization.