

Highly dispersible diamond nanoparticles for pretreatment of diamond films on Si substrate

Objective/achievements

To study and check if the quality (uniformity) of the diamond film is affected if the substrate has a previous treatment. The treatment consists on seed diamond nanoparticles by spin coating a solution of polyglycerol grafting. The treated substrates showed more dispersion, in other words, more film uniformity.

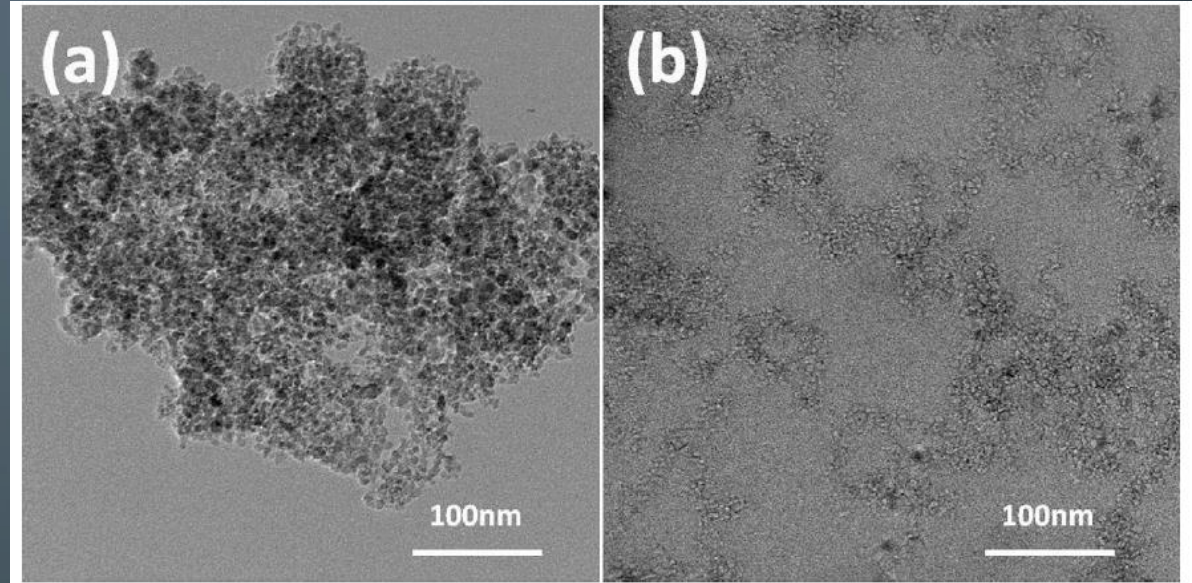
Sample preparation

The sample did not need any previous preparation before being submitted to TEM characterization.

Data acquisition conditions

"Transmission electron microscope (TEM, JEOL LTD JEM-2010F) was carried out to observe the dispersibility of ND-PG and untreated ND in organic solvents."

Representative figure /results



"TEM images of two different diamond dispersions: (a) untreated diamond nanoparticles and (b) diamond nanoparticles prepared by polyglycerol grafting (ND-PG)"

Reference

S. Zhao, J. Huang, X. Zhou, B. Ren, K. Tang, Y. Xi, L. Wang, L. Wang, and Y. Lu, "Highly dispersible diamond nanoparticles for pretreatment of diamond films on Si substrate", Applied Surface Science, vol. 434, pp. 260-264, 2018, issn: 0169-4332. doi: <https://doi.org/10.1016/j.apsusc.2017.10.145>. [Online]. Available: <http://www.sciencedirect.com/science/article/pii/S0169433217330969>

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