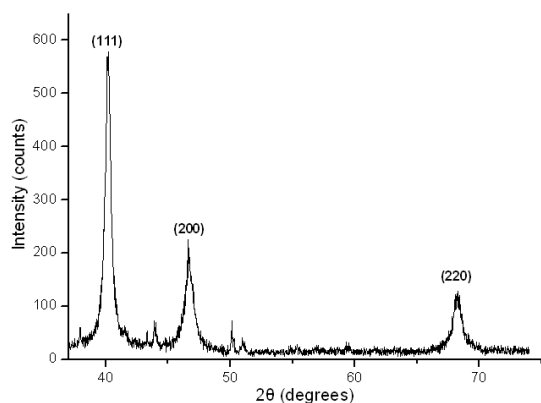
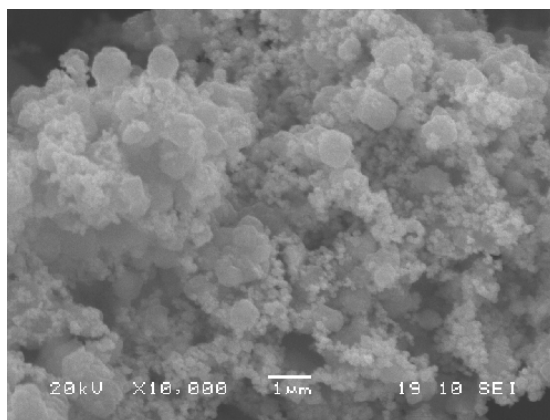


CATALYSIS BY METAL NANOPARTICLES

The project includes the development of thiosemicarbazone-stabilised metal nanoparticles and their application in catalysis (semi-heterogeneous catalysis). Such Pd nanoparticles (average crystallite size 16.2 nm) were prepared and used as catalyst for the Suzuki-Miyaura cross-coupling of aryl bromides (deficient and efficient) with phenylboronic acid. Catalysis led to satisfactory results even when the reaction was performed at room temperature, indicating the constructive role of the thiosemicarbazone-derivatisation, being more efficient catalyst compared to the homogeneous catalyst $\text{Pd}(\text{PPh}_3)_4$. The catalytic system could be recovered and reused.



X-ray diffraction patterns of Pd(0) nanoparticles



SEM image of the of the Pd(0) nanoparticles

Publication

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