

**SYNTHETISATION AND CHARACTERISATION OF PLATINUM NANOPARTICLES
IN A WIDE RANGE OF SIZE**

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Abstract

Discovering new alternative catalysts for (industrial) organic reactions is an important and challenging task. Use of transition metals in these kind of reactions has had success since the beginning of the 19th century. Development of nanostructure related methods can help us to enhance these reactions. This study showcases different methods that were developed for synthesising nanostructured platinum crystals in a wide range of size. (1-100nm) Production of smaller nanoparticles requires ethylene glycol as solvent, while more robust crystals can be formed in a watery solution. The process could be made either with the use of protecting organic groups or without; these properties provide good flexibility considering the further usage of the nanoparticles. Characterisation of the nanoparticles involved measurements with Transmission Electron Microscopy and Dynamic Light Scattering, these methods have showed the monodisperse size distribution and spherical geometry of the nanocrystals.