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Metal-Graphene hybrid materials as heterogeneous catalyst for carbon-carbon and carbon-heteroatom cross coupling reactions

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Graphene, one of the most promising materials in nanotechnology. Its unique physical, chemical and mechanical properties are outstanding and could allow the preparation of hybrid materials with unique characteristics. From the theoretical point of view, it provides the ultimate twodimensional model of catalytic support. This study, the thirteen nanohybrids based on graphene as support were designed and synthesized as well as heterogeneous catalysts used in the carbon-carbon and carbon-heteroatoms coupling reactions. All nanohybrids were characterized by X-ray diffraction, Raman scattering, transmission electron microscopy, scanning electron microscopy, energy-dispersive X-ray spectroscopy, X-ray photoelectron spectroscopy.

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