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Toward molecular designing on graphene-based materials for catalytic applications

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During the last half decade, carbon-based nano-materials have been studied in the wide range of applications, due to its excellent electrical, mechanical, and thermal properties as well as good tolerance for chemical modification. Revealing chemical structures of the carbon-based nano-materials is highly important to understand materials properties and to develop optimized processing. This understanding enables us to make new molecular/nano hybrids, which showed interesting performances for catalytic applications. Chemical designing on nano-materials in molecular level would be a promising route to create new hybrid materials and to control various properties of nano- and molecular materials. Organometallic compounds have been a center of molecular catalysts with pre-eminent catalytic activity and selectivity in a wide range of chemical transformations. Hybridization of organometallic complexes with graphene-based materials can give rise to enhance catalytic performances. In this presentation, I will discuss my recent research activities on the fundamental chemistry of carbon-based nano-materials as well as catalytic applications.

Biography

Sungjin Park has completed his PhD from KAIST, Korea and Postdoctoral studies from Northwestern University and University of Texas at Austin. Now, he is an Associate Professor at Inha University. He has published more than 65 papers in reputed journals.

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