

### Synthesis of phosphorous doped Ordered Mesoporous Carbons (OMCs)

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Heteroatom doped carbon materials represent one of the most outstanding issues of materials that are used in energy related applications, such as hydrogen storage, fuel cells or super-capacitors. Throughout the past decades, nitrogen doped carbons have been experienced great progress. Also, other heteroatoms have gained the researchers' interest in the last years. Boron is already relatively widely studied, and co-doped carbons with nitrogen can probably create synergy effects. Phosphorous has just yet recently entered the world of carbon synthesis. Phosphorous, an element of the nitrogen group has the same number of valence electrons as nitrogen and often shows similar chemical properties. There has been no report for development of a possible composite of phosphorous and carbon material possessing large surface area in order to improve catalytic activity and durability. OMCs have been a popular choice as catalyst. Because OMCs have high surface area, tunable pore size, morphologies and adjustable framework properties. Herein, we have prepared a P-doped ordered mesoporous carbon without using phosphoric acid, and examined its chemical properties.