**Water adsorption on graphene monoliths font 14 Arial**

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The interaction of water with solid surfaces is one of importance research issues from fundamental science and technology, although it has been studied for a long time. When we drop a water droplet on the compressed disk plate of hydrophobic carbons having nanoscale pores, the water droplet forms a stable hemisphere. This indicates that the porous carbon-packed surface is rather hydrophobic. It is well-known that water vapor begins to be adsorbed suddenly on nanoporous carbons of fewer amounts of surface oxygen groups and hydrophobic zeolites such as AlPO4-5. The behavior can be phenomenologically described by the transformation of hydrophobic surface to hydrophilic surface1 or we need to understand that hydrophobic materials having nanoscale pores have duality of hydrophobicity and hydrophilicity. This duality of highly nanoporous materials for water can be understood in terms of growth mechanism of water clusters. Also the structure of ions in carbon micropores has gathered great attention with the relevance to supercapacitance technology. **font 12**

**Reference(s) font 12**

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