Faculty of Science and Technology
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Elucidating the gas adsorption mechanism and developing its applications

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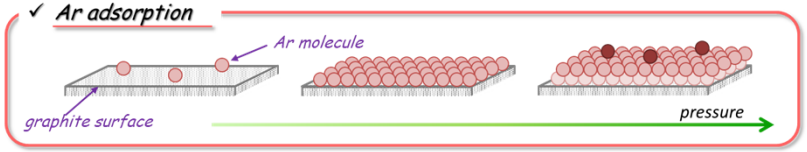
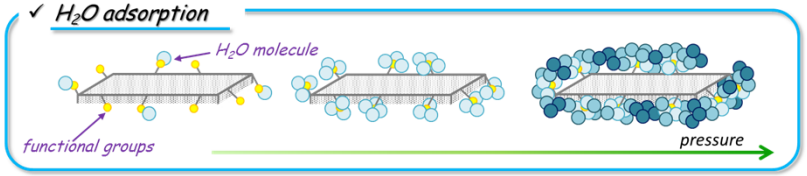
☐ *Non-polar* vs. *polar* molecules adsorption on graphite surface

✓ *Ar adsorption*



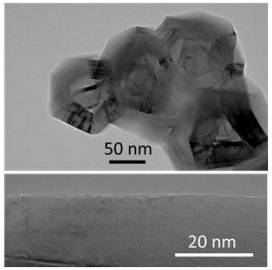
: layering adsorption mechanism

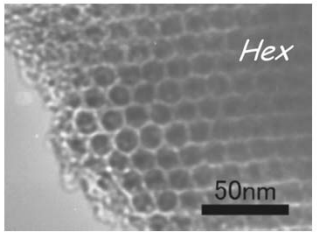
✓ *H_2O adsorption*



: clustering adsorption mechanism

● Non-porous graphite ● Highly ordered mesoporous carbon





* J. Phys. Chem. C (2011), pp. 2720–2726

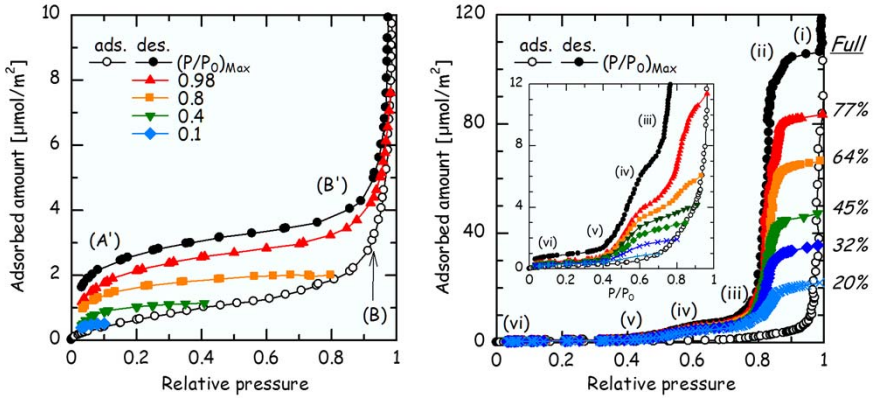


Fig. Water desorption scanning curves on (a) Carbopack F and (b) Hex at 273K [1].

Content:

Adsorption phenomena is applied many separation technologies, e.g. gas separation, environmental purification. When you use those technologies, you need to choose a suitable adsorbent from many types of adsorbents. If you could choose right one from those, you can save energy, time and cost. Therefore, it is very important to choose an optimized adsorbent.

However, sometimes there are no suitable or optimized adsorbents for the process, so we might need to develop an optimized adsorbent. When you develop a new material, you must understand what kind properties you want for the process according to the adsorption phenomena. I can help you to develop the material using my adsorption knowledge.

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carbon materials
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