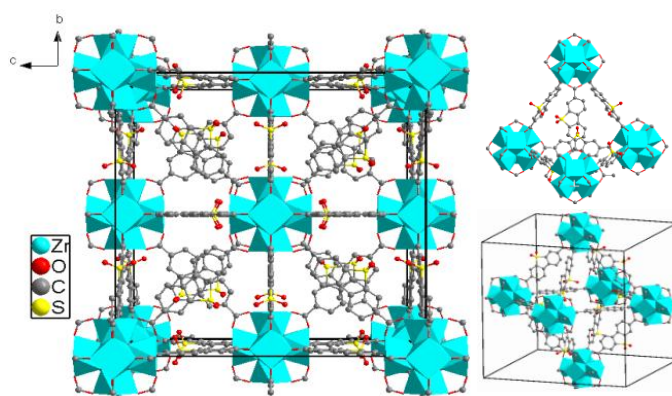


# Gas-sorption properties of functionalized Zr- and Hf-based MOFs

Pantelis Xydias<sup>\*</sup>, Ioannis Spanopoulos and Pantelis N. Trikalitis  
*Department of Chemistry, University of Crete, Herakleion 71003 Greece*

Metal Organic Frameworks is a relatively new class of materials that are highly attractive for gas sorption applications due to the fact that they combine high porosities with functionalized surfaces. Herein we report the synthesis and study of Zr- and Hf-based MOFs made of ditopic and quadratopic carboxylated based ligands that have similar structures to the UiO-67, MOF-812 and PCN-521 materials. In the case of UiO-67 analogues (see Figure 1), different functional groups have been incorporated including -SO<sub>2</sub>, NO<sub>2</sub> and -OH. The nature of the functional groups greatly affects the gas-sorption properties. These results will be presented and discussed in detail. [1-4]



**Figure 1.** The ideal fcc structure for the sulphone functionalised UiO-67 along the a-axis. The structure contains tetrahedral and octahedral cages.

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<sup>\*</sup> xydias@chemistry.uoc.gr