STRATEGIES FOR OBTAINING HYDROPHOBIC MOFs BASED ON SILICON-CONTAINING CARBOXYLATE LIGANDS

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This work aimed to highlight an innovative strategy toward hydrophobic/moisture stable MOFs starting from different polycarboxylates having phenyl/diphenylsilane units in their structure and metal ions from *d*- and *f*-block elements. The presence of the silicon atom with a higher polarizability confer several advantages compared with their carbon analogues, the most important being the properties associated with the increased processability, solubility and hydrophobicity. The conformational flexibility of such ligands due to longer bond lengths than carbon analogues proved to have a great impact on the final architecture of the MOFs (Figure 1).

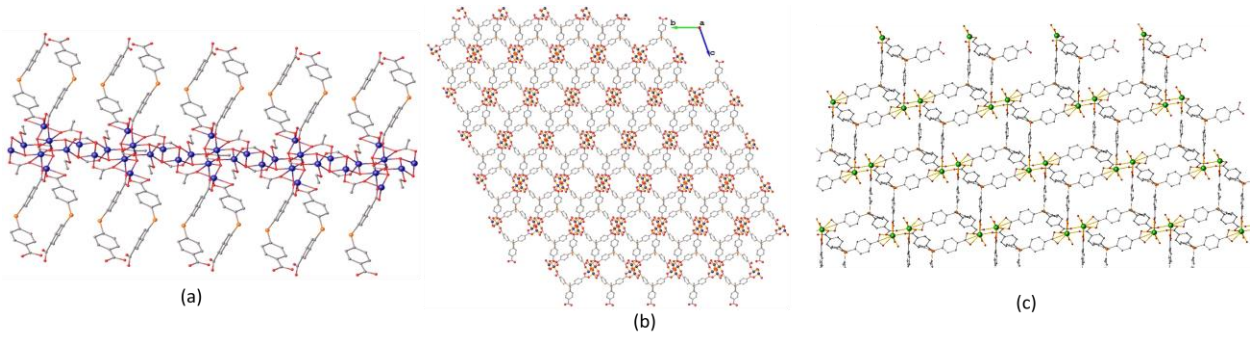

Figure 1. X-ray structures of MOFs based on bis(*p*-carboxyphenyl)diphenylsilane (a) and tri(*p*-carboxyphenyl)phenylsilane (b, c) and Zn(II) (a, b) and Dy(III) ions (c)

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