

## The development of new luminescent MOFs for molecular detection

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Metal-organic frameworks (MOFs) are a fascinating class of hybrid organic-inorganic porous crystalline nanomaterials built from metal-ions and organic bridging ligands [1]. Among the applications of MOFs in different prominent fields [2], the sensing and detecting of specific target components, including toxic and aromatic compounds, volatile organic compounds (VOC), pesticides and explosives, have attracted our attention. In our group, extensive research over the past few years has focused on the design, synthesis, and investigation of a new class of anthracene-based MOFs. Modification of different parameters of these compounds revealed them to be very promising candidates for the molecular detection of analytes due to changes in their optical properties through host-guest interactions.

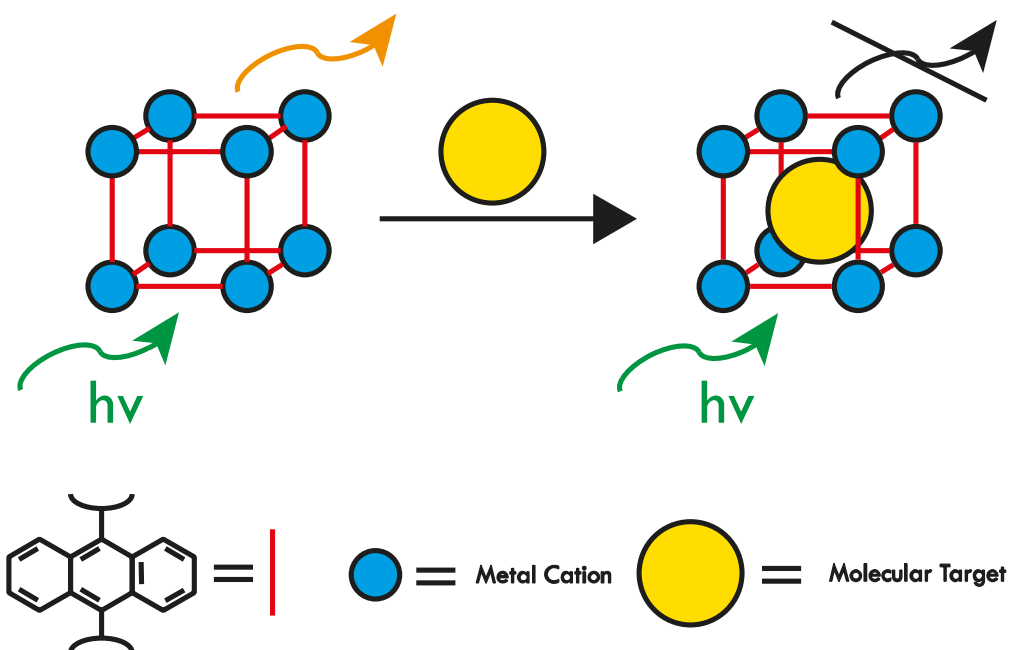


Figure 1: Concept of how MOFs materials based on anthracene building unit can detect the molecular targets by luminescence changes through host-guest interaction.

[1] Hong\_Cai Zhou, Omar Yaghi, Chemical Reviews, 2012, 112, 2, 673-674.

[2] Ryan Kuppler, Hong\_Cai Zhou, Coordination Chemistry Reviews, 2009, 253, 23, 3042-3066.