

## Development of Metal Organic Frameworks as heterogeneous catalysts

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Metal Organic Frameworks (MOFs) are crystalline porous solids composed of a three-dimensional (3D) network of metal ions held in place by multidentate organic molecules [1,2]. Recently, MOFs have received considerable attention as potentially valuable catalyst materials. However, only few catalytic applications of Metal Organic Frameworks have been reported. Some of their potential applications were outlined recently in a review of Müller [3]. Even though MOFs have already been investigated on their catalytic performance, so far all studies have been focussed on MOFs possessing unsaturated metal sites. Nevertheless, the real nature of the active sites still remains a subject that is poorly understood. From this point of view, the investigation of the catalytic activity of a saturated Metal Organic Framework can deliver new insights in the reaction mechanism of new catalytic reactions.

In this study the saturated Metal Organic Framework, MIL-47 was investigated for its catalytic performance in the oxidation of cyclohexene. Furthermore, MIL-47 was compared with some commercial available reference catalysts, namely VAPO-5, a silica supported vanadiumoxide catalyst and the homogeneous catalyst VO(acac)<sub>2</sub>. A remarkable catalytic activity of the MIL-47 is observed.

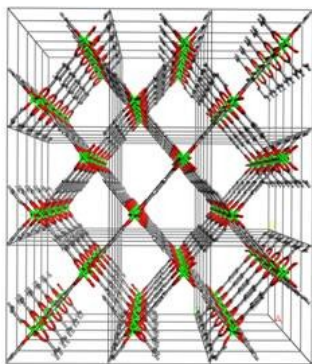


Figure: structure of MIL-47

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