

Effect of the pressure on the synthesis of *ADOR* zeolites

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Novel methods for the synthesis of zeolites are required to assemble new microporous framework structures. In this sense, *ADOR* (Assembly-Disassembly-Organization-Reassembly) protocol¹ has been applied for the preparation of PCR- and OKO-type zeolites since UTL, which is the parent framework.² Alternatively, novel zeolites can be also synthesized under high pressure conditions. Recently, a new zeolite, ITQ-50, has been successfully synthesized inducing pressure of 3 GPa to LTA (ITQ-29) zeolite.³

In this talk, a transition sequence under pressure in the IPC-1P layers is discussed.⁴ These transitions are achieved in the range of 0.30-0.60 GPa. The direct condensation of these four layers generates novel 3D zeolites (Fig. 1), two of them have been reported experimentally (IPC-4 and IPC-9)^{2,4} whereas, the two remaining are still unresolved matter. Our prediction show that novel zeolites can be obtained under low pressure regime (1-2 GPa).

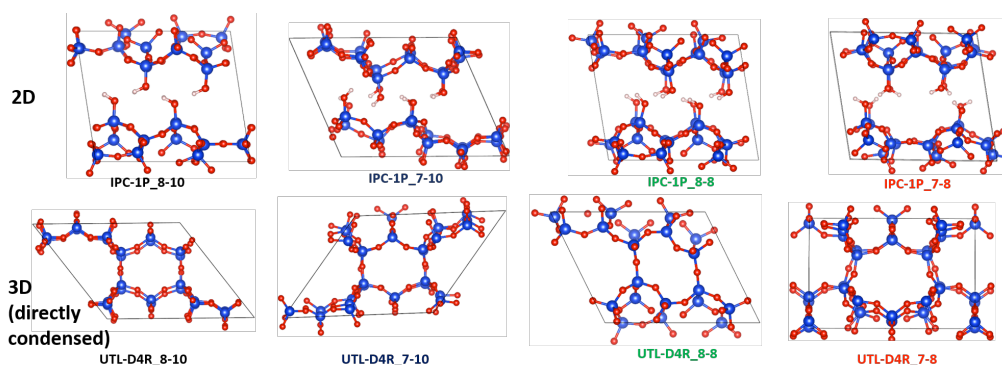


Fig. 1. IPC-1P layers (2D zeolites) and their 3D analogs labeled as UTL-D4R

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2. W. J. Roth, *et al. Nature Chem* **5** 628-633 (2013).
3. J. L. Jordá, *et al. Angew. Chem. Int.* **52** 10458-10462 (2013).
4. M. Mazur, *et al. Nature Chem.* **8** 58-62 (2016).