

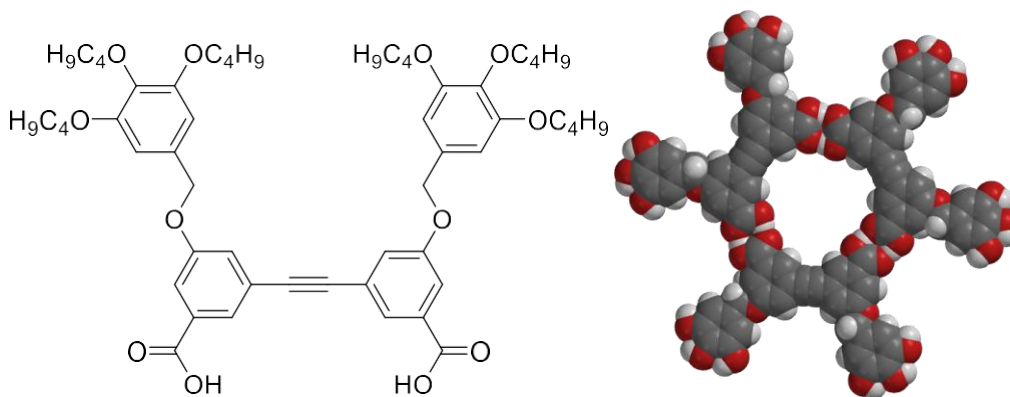
# Intercalation of dicarboxylic acids into porous supramolecular nanopatterns on graphite (HOPG)

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Rigid entities consisting of ethynylene and phenylene units are of great interest due to their wide range of applications, including metal chelate ligands<sup>[1]</sup>, enzyme transporters<sup>[2]</sup>, molecular electronics<sup>[3]</sup>, or surface studies.<sup>[4]</sup> One aspect of the latter deals with supramolecular nanopatterns, that form at the solid/liquid interface of a solution of an organic species and a solid material, such as highly oriented pyrolytic graphite (HOPG). Here, we report on the synthesis and self-assembly of an arylenoalkynylene carrying two carboxylic acid units and 3,4,5-trialkoxybenzyloxy units (Figure 1). The former are prone to interact non-covalently, while the latter mediate sufficient compound solubility. When a solution of dicarboxylic acid (Figure 1, *left*), is applied to a porous supramolecular template layer of arylenoalkynylene macrocycles, cyclotrimers are found (Figure 1, *right*) in its nanopores, that act as a host. In all cases, the supramolecular adsorbate structures formed are visualized by scanning tunneling microscopy (STM) with submolecular resolution.



**Figure 1:** Dicarboxylic acid (*left*) and space-filling model of a supramolecular cyclotrimer thereof (*right*; alkoxy chains omitted for clarity).

## References:

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