

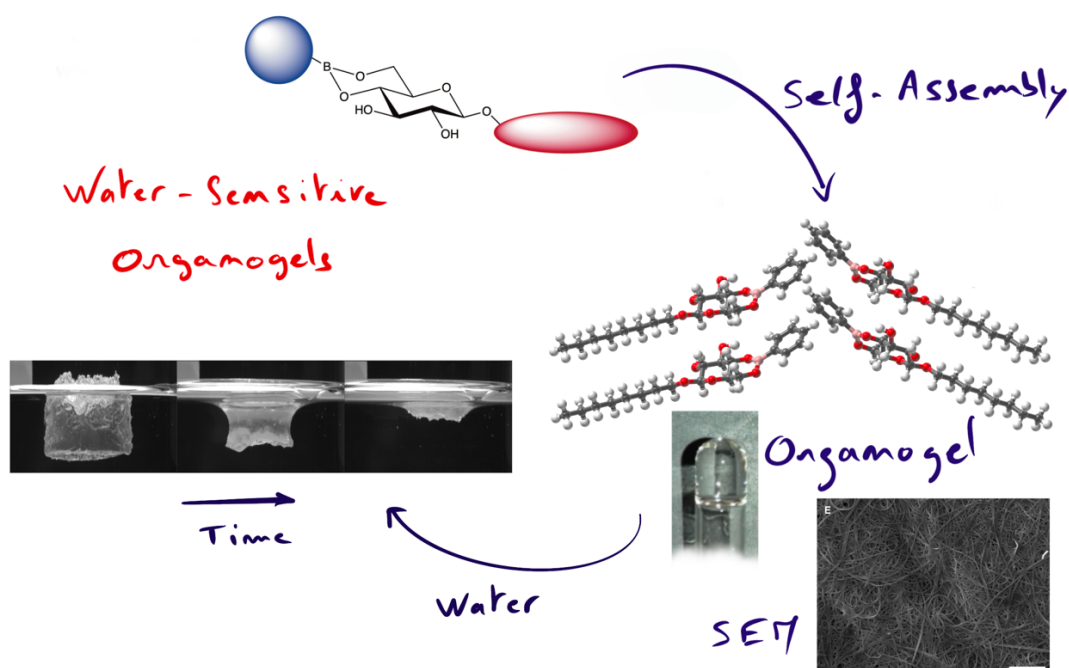
Glucoside-boronates behave as water-sensitive organogelators

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The preparation of gels with low-molecular-weight gelators is based on formation of a 3D-network responsible for the immobilisation of a solvent. The corresponding fibers are obtained through the self-assembly of those gelators thanks to van der Waals interactions, π - π interactions, hydrogen bonding or electrostatic interactions. It turns then aqueous or organic solutions into hydrogels or organogels, respectively. Sugar-based derivatives are already known for their potential as remarkable organogelators. Recently, we described an easy synthesis of a new class of organogelators obtained by esterification of a glucoside with aromatic or aliphatic boronic acid. These sugar-boronate derivatives permitted to investigate the impact of both the alkyl chain and the aromatic part on the gelation properties. Thanks to the boronate function, our organogels are water-sensitive and depending on the chemical structure, they showed different behavior upon hydrolysis. In addition, some members of this organogelator family bear fluorescent properties. We also fully characterized the gels by rheometry, electron microscopy (SEM) and X-ray diffraction to understand as much as possible the type of self-assembly involved during the formation of the organogels.



Bibliographic references:

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