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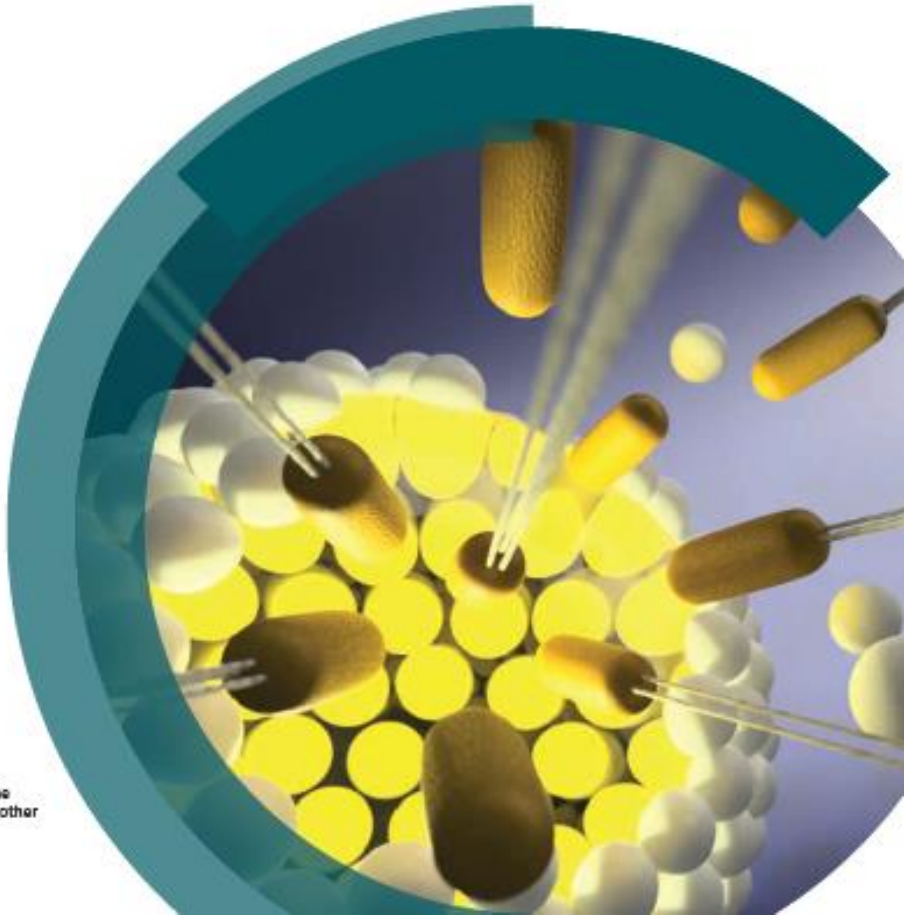

Book of abstracts

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Azobenzene cis immobilization: A new practical approach to obtain azobenzene light responsive surfaces

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In recent years, light responsive surfaces have attracted interest due to their ability to reversibly change their properties in response to light, a non-invasive and highly precise spatial and temporal stimulus. [1,2] One way to achieve this light response is by coating the surface with a photoswitch, a chemical entity that after the absorption of a photon suffers a reversible chemical reaction. One of the most used photoswitches for this purpose are azobenzenes, thanks to their high quantum yields, fast photoisomerization rates and resistance to optical fatigue. [3]

Although it may sound fairly simple, the coating of a surface with an azobenzene is not a trivial process since when the molecules are too tightly packed isomerization is prevented by steric hinderance or electronic coupling between the molecules and the surface.[4] Therefore, the immobilization of the azobenzene is normally performed using a quite diluted reaction mixture or/and a mixed approach, where the azobenzene is immobilized together with another molecule not capable of switching, which acts as a spacer.[5] In both strategies, the optimization process can be quite tedious and time consuming, requiring the test of several azobenzene concentrations, reaction times and

In this work, we present another strategy to circumvent this problem, the immobilization of the azobenzene while on the most space demanding configuration, the *cis* isomer. For this purpose, an azobenzene was immobilized on a silicon surface using a reaction mixture previously irradiated with 365 nm to switch the azobenzene to the *cis* configuration. After immobilization, the switching was checked by water contact angles measurements.

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