

Photoresponsive soft materials made by molecular self-assembly

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Self-assembly is emerging as a superior method to prepare responsive and adaptive nanomaterials. The structure and function of these materials is entirely determined by the dynamic and weak interactions of the constituent molecular “building blocks” of the material. Since the inherent interactions are weak, these versatile materials readily respond to even small changes and stimuli in their environment. Moreover, these materials are biomimetic and can contain large amounts of water, so that applications in biomedical technology are foreseen.

This lecture will highlight our recent work on self-assembled supramolecular nanomaterials that respond to light. In all these nanomaterials, molecular photoswitches are key components. The improved molecular design of photoswitches enables the bottom-up self-assembly of tailor-made functional materials and interfaces. Amongst others, light responsive hydrogels, foams, monolayers, adhesives and solids will be discussed.

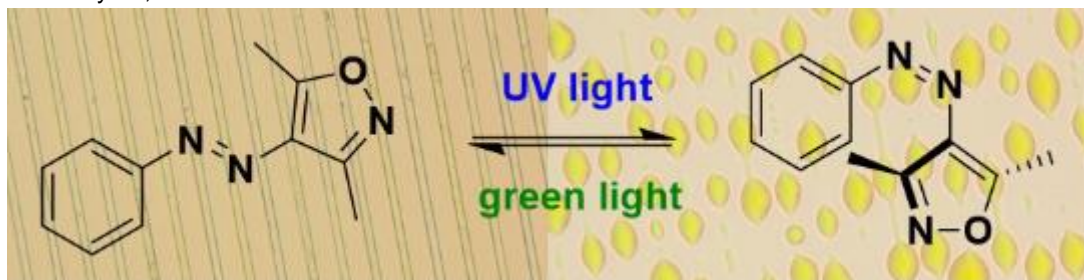


Figure 1. Arylazoisoxazole photoswitches show a reversible photoinduced solid-to-liquid phase transition.

References:

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Besucher sind herzlich willkommen!

Der Ortsverbandsvorsitzende:

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