Special Issue

Mechanically Responsive Materials and Their Applications

Message from the Guest Editors

To adapt to the changing environment, biological systems employ specific stimuli-responsive molecules and supramolecular assemblies. Accordingly, the complex adaptation is possible due to the dynamic molecular tuning by regulating signals. Inspired by nature, chemists also implement controlling elements into the material design; for this purpose, adjustable structural units with properties controlled by a suitable stimulus are introduced to a responsive molecule. The respective molecular architectures that respond to external stimuli and alter their function are often referred to as smart materials, and mechanical action can be an attractive possibility to regulate properties of various materials. This Special Issue is an attempt to provide a common ground for researches involved in the development of new materials receptive to mechanical stimuli. The application of such materials is limited only by our imagination, and it already involves enzyme mimics and modulation of reaction outcome, mechanoresponsive polymers and mechanosensitive channels, smart drug delivery and release, self-healing coatings, piezo- and triboelectric nanogenerators, to name but a few developments.

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As the premier open access journal dedicated to experimental organic chemistry, and now in its 25th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts and novel materials. Pushing the boundaries of the discipline, we invite papers on multidisciplinary topics bridging biochemistry, biophysics and materials science, as well as timely reviews and topical issues on cutting edge fields in all these areas.

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