



## Stimuli-Responsive Polymers: Current Advances and Future Perspectives

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### Message from the Guest Editor

With the advent of smart stimuli-responsive polymers, nowadays, it is possible to develop materials which simulate biological intelligence observed in nature. In particular, stimuli-responsive drug delivery (SRDDS) systems that allow the delivery of conventional drugs in spatial-, temporal- and dosage-controlled fashions have become a research hotspot in recent years. The stimuli can be from an external source such as light, near IR, ultrasound, X-ray and magnetic field or internal triggers such as heat, pH, oxidative stress and enzymatic reactions. Nevertheless, it still faces several major challenges such as chronic toxicities, long-term stability, biodistribution and selectivity and targeting efficacy *in vivo*.

Hence, the current research topic aims to cover the recent developments of SRDDS and barriers which hurdles their clinical application. In general, the scope of the current research topic involves the pathophysiology of some of the disease and biological conditions that can be used as stimuli for targeting, smart and responsive biomaterials, current developments of SRDDS, and limitations of the currently available systems.





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