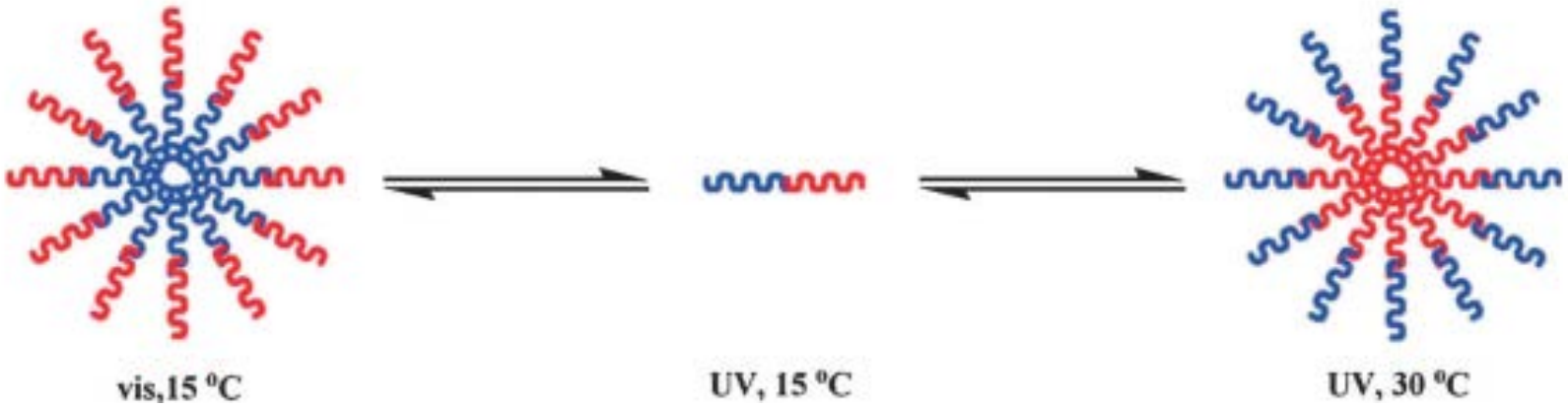
Double stimuli responsive polymers



PSPMA-PDEGMMA

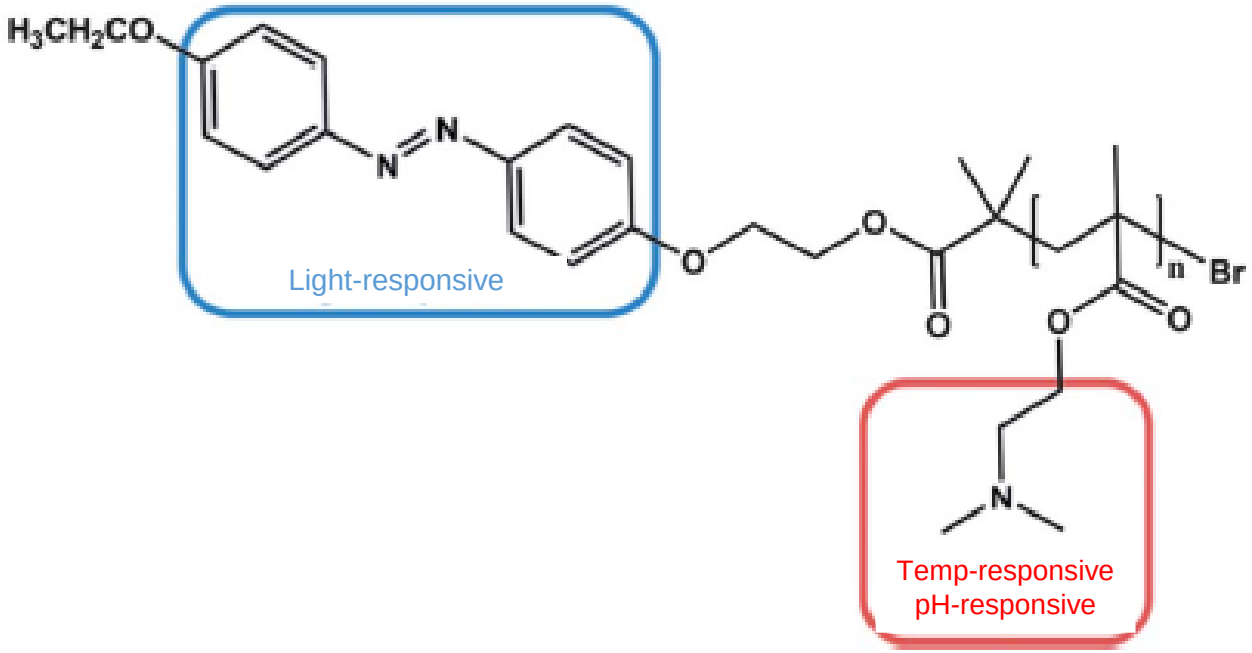
Micelles formed by changing the temperature (from 15°C to 30°C) of the solution and by photo irradiation. These micelles were used for encapsulation and controlled release and re-encapsulation of the model drug.

3. Thermo and redox-responsive polymers

The systems consist of PNIPAM macromonomers, which were linked via disulfide units, can be considered as a system with two stimuli having a causal impact.

1. Light, pH and temperature responsive polymers
2. Light, redox and temperature-responsive polymers
3. Environmental, pH and temperature-responsive polymers

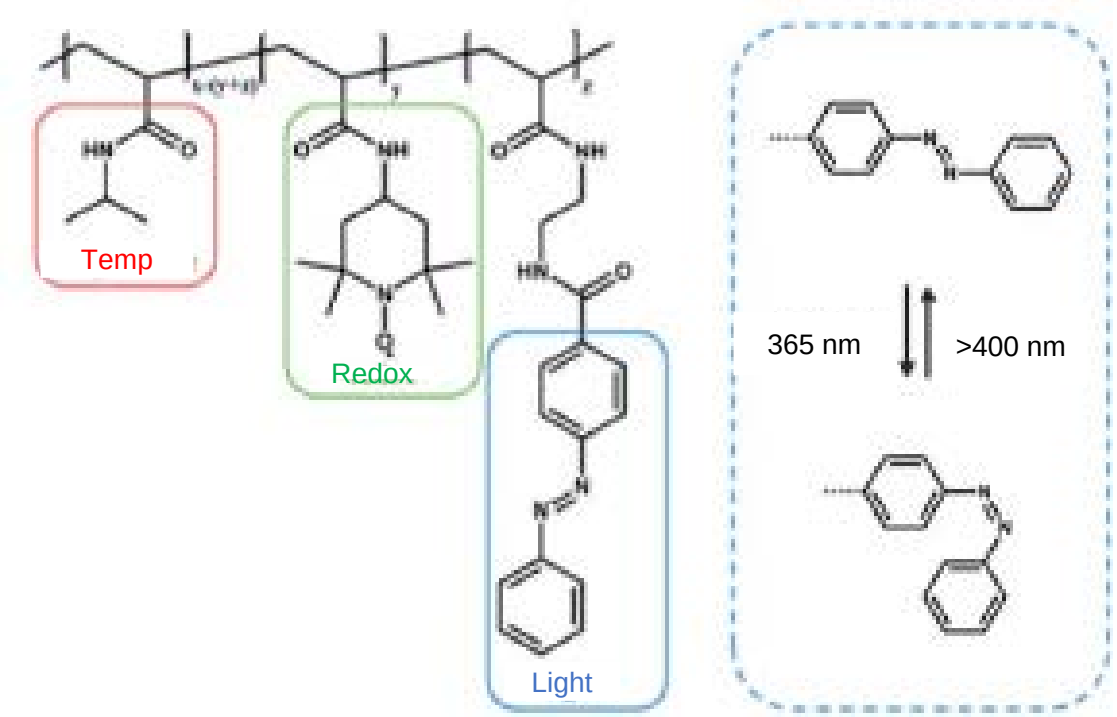
1. Light, pH and temperature responsive polymers



PDMAEMA polymer end-functionalized with azobenzene, which can be stimulated by light, temperature and change of the pH value.

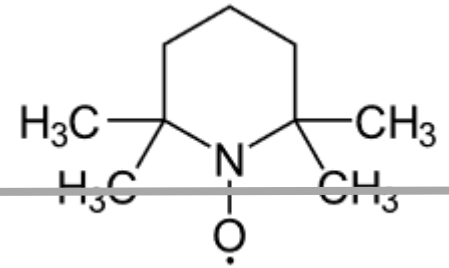
Ref: Schattling et.al *Polym. Chem.*, **2014**, *5*, 25–36

2. Light, redox and temperature-responsive polymers



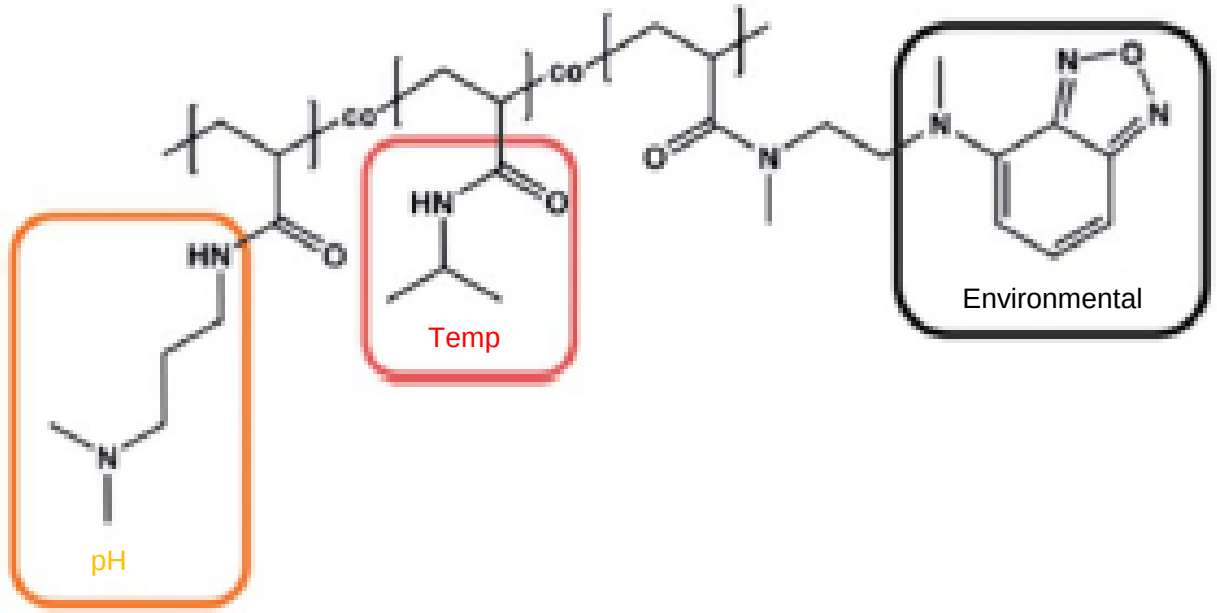
Triple-responsive polymer, equipped with the redox-sensitive moiety TEMPO, the light-responsive azobenzene and NIPAM, which is sensitive towards temperature.

(2,2,6,6-tetramethylpiperidin-1-yl)oxidanyl (TEMPO)



Ref: Schattling et.al *Polym. Chem.*, **2014**, *5*, 25–36

3. Environmental, pH and temperature-responsive polymers



Stimuli responsive polymer system with causal interaction.

Ref: Schattling et.al *Polym. Chem.*, **2014**, *5*, 25–36