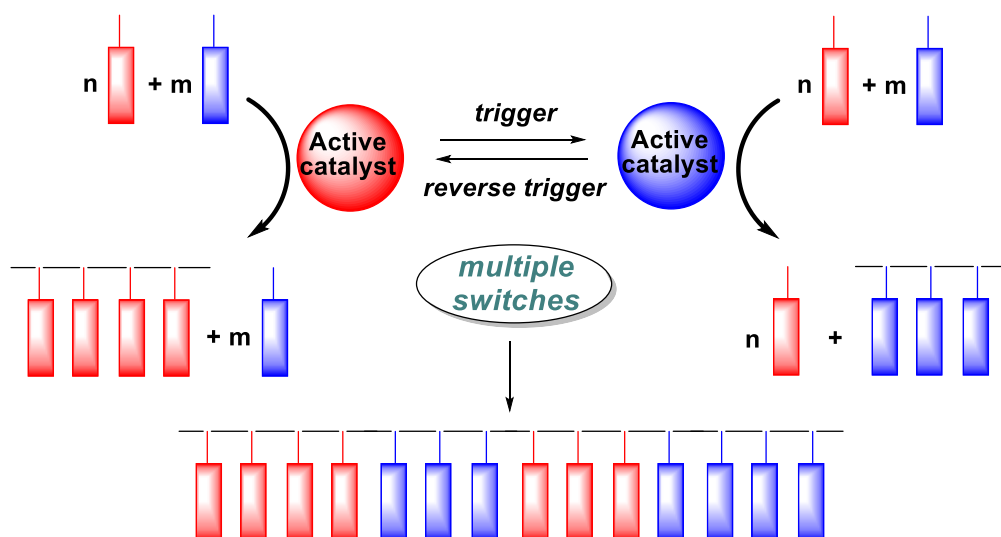


Redox switchable ring opening copolymerization

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Switchable polymerization processes have received increased attention because they hold the promise of mimicking the selectivity exhibited by natural systems.¹⁻³ We are studying a chemical method to shuttle between two catalyst states, by switching the oxidation state of iron in ligands containing a ferrocene backbone. This idea is applied to the ring opening polymerization of cyclic esters/ethers catalyzed by transition metal complexes with the goal of forming biodegradable copolymers.



References

1. Deng, S.; Jolly, B. J.; Wilkes, J. R.; Mu, Y.; Byers, J. A.; Do, L. H.; Miller, A. J. M.; Wang, D.; Liu, C.; Diaconescu, P. L., Spatiotemporal control for integrated catalysis. *Nat. Rev. Methods Primers* **2023**, *3*, 28.
2. Lai, A.; Hern, Z. C.; Shen, Y.; Dai, R.; Diaconescu, P. L., 9.07 - Metal Complexes for Redox Switching and Control of Reactivity. In *Comprehensive Coordination Chemistry III*, Constable, E. C.; Parkin, G.; Que Jr, L., Eds. Elsevier: Oxford, 2021; pp 155-180.
3. Wei, J.; Diaconescu, P. L., Redox-switchable Ring-opening Polymerization with Ferrocene Derivatives. *Acc. Chem. Res.* **2019**, *52* (2), 415-424.