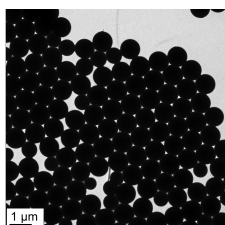


## Low energy-photon radical photopolymerizations in dispersed media

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In this talk we will first present how NHC-Boryl or sulfur-based radicals can be formed via visible (blue) light irradiation, and how this can be used to initiate efficient photopolymerizations in emulsion[1] and dispersion,[2] overcoming the scattering of the photons by the particles formed. The latexes generated are made of monodisperse particles with sizes up to the micrometer-scale.



We will then examine how one can transition toward the red[3] and how the organic surfactant can be replaced by inorganic CeO<sub>2</sub> nanoparticles toward the photochemical formation of latexes of Pickering-stabilized filmogenic CeO<sub>2</sub>-armed polymer particles.

- [1] "Visible-light Emulsion Photopolymerization of Styrene" Le Quéméner, F.; Subervie, D.; Morlet-Savary, F.; Lalevée, J.; Lansalot, M.; Bourgeat-Lami, E.; Lacôte, E. *Angew. Chem. Int. Ed.* **2018**, *57*, 957-961; DOI: 10.1002/anie.20171048.
- [2] "Visible-Light Initiated Dispersion Photopolymerization of Styrene" Canterel, R.; Lalevée, J.; Bourgeat-Lami, E.; Lacôte, E.; Lansalot, M. *Angew. Chem. Int. Ed.*, **2023**, e202309674; doi.org/10.1002/anie.202309674.
- [3] "A Methylene Blue/Sodium sulfinate Photo-Initiating System for the Red-Light Emulsion Photopolymerization of Methyl Methacrylate" Kalout, H.; Lansalot, M.; Bourgeat-Lami, E.; Morlet-Savary, F.; Lacôte, E.; Lalevée, J. *Adv. Funct. Mater.* **2024**, accepted for publication.