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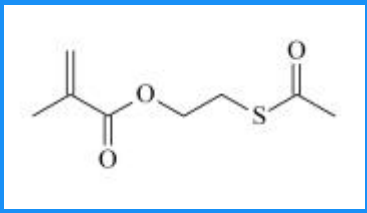
FUNCTIONAL MONOMERS

Chemical moieties for all applications

SPECIFIC POLYMERS research activity is based on organic, polymer and material chemistry. The conception and design of tomorrow's materials always start with the development of innovative **monomers bearing the specific moiety that will bring added-value in your application**. An overview of SP functional monomers of great interest in various field of research is provided here. However, if you are looking for other specific monomers, do not hesitate to **contact us**. It's what we do !

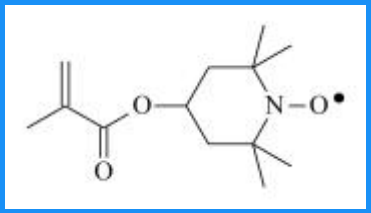
NEW MONOMERS @ SP



SP-49-017

AcSEMA 2-(acetylthio)ethylmethacrylate (AsSEMA) is a new monomer bearing an acetyl protected thiol **ligand** moiety for **quantum dots** nanoparticles. It was used recently for the synthesis of smart nanogels and hydrogels.

Liras et al., Polym. Chem., 2017

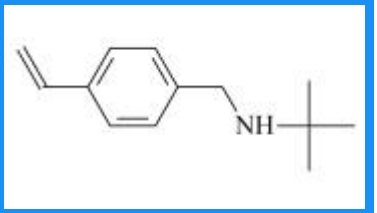


SP-49-018

TEMPO methacrylate

This monomer contains stable free radical moiety responsible of **unique redox behavior**. The reversible oxidation of nitroxides is the basis principle for their use as positive electrode material in organic radical batteries.

Bugnon et al. Chem. Mater. 2007



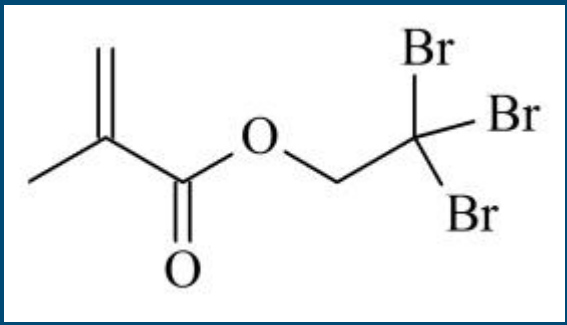
SP-59-007

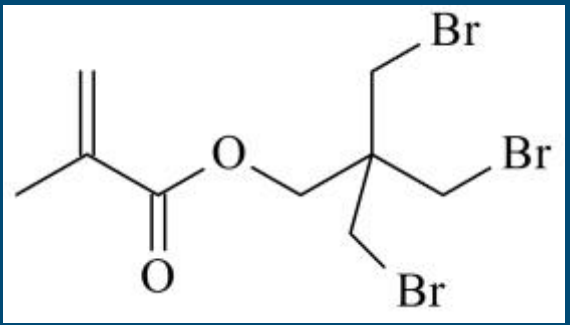
TBAMS

2-(tert-butylamino) methystyrene (TBMAS) is an **antimicrobial** styrenic monomer. Polymers made out of these monomers have biocidial properties resulting from contact of the polymer and the microorganisms (no release of active molecules).

Brodkorb. et al., Int. J. MoL. Sci. 2015

BROMINE-CONTAINING METHACRYLATES





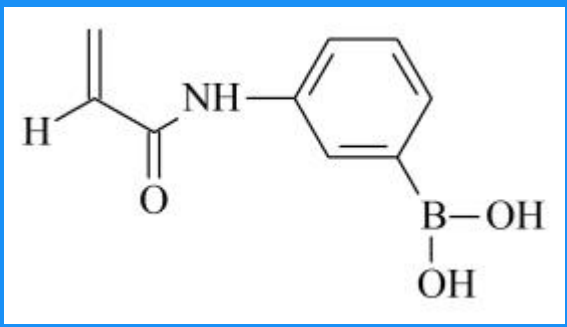
SP-49-012
Tribromoethylmethacrylate

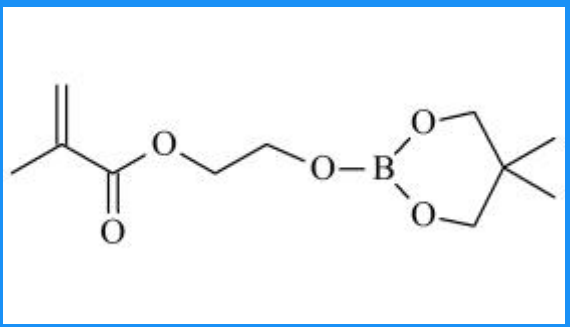
SP-49-013
Pentaerythritol Tribromide methacrylate

Bromine containing monomers are of great interest for **Dental Materials**. Indeed such materials contain radiopacifying fillers of **high Refractive Index** (1.51 – 1.61) and it is important that polymer matrix exhibit RI in the same range. Bromine containing monomers have been shown to **exhibit radiopaque properties** due to their high electronic densities and can be polymerized by **UV-polymerization**.

Tauscher, S. et al., Macromol. Mater. Eng. 2016, 301, 733–742

BORONIC-CONTAINING MONOMERS





SP-49-014
Boronic acid acrylamide

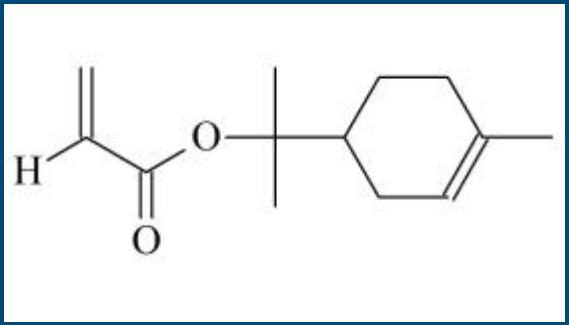
SP-49-015
Boronic ester methacrylate

Boronic-containing polymers have been used in a number of applications in the biomedical fields, such as saccharide responsive hydrogels, polymer glucose sensors, cell capture, enzymatoic inhibition and site-specific radiation therapy. The boronic acid moiety is well-known for both its Lewis acidity and corresponding complexation with electron donating moieties. All our boronic acid monomers can be

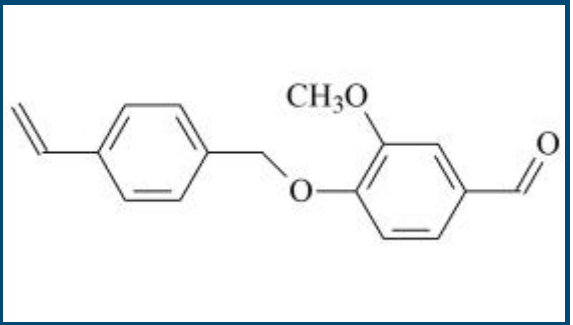
protected in order to remove adverse effects of the boronic acid during synthesis o polymerization steps.

Brooks, W. L. A., Sumerlin, B., Chem. Rev. 2016, 116, 1375–1397
Vancoillie, G., Hoogenboom, R., Polym. Chem. DOI: 10.1039/c6py00775a

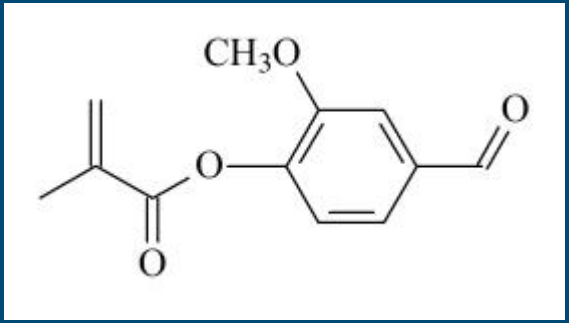
RENEWABLES MONOMERS



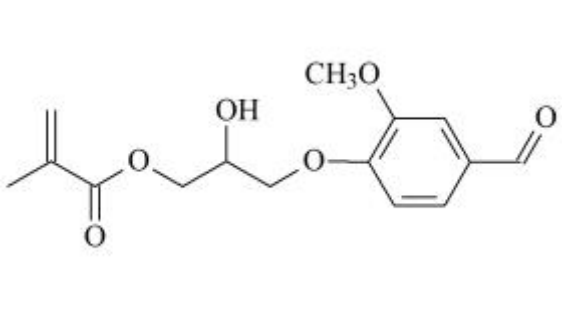
SP-49-016
Terpineol acrylate



SP-68-026
Vanillin Functionalized Styrene



SP-68-013
Vanillin Methacrylate



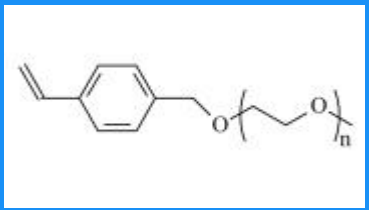
SP-68-025
Vanillin Hydroxypropyl Methacrylate

There is an increasing demand for monomers and polymers derived from natura sources in order to reduce materials carbone footprint. For many years, SPECIFIC POLYMERS develop and supply vanillin based methacrylates (SP-68-013, SP-68-025 and styrenic monomers (SP-68-026). SP is currently developing a new range o renewable terpenes based methacrylate and acrylate monomers (SP-49-016). Terpenes derived from citrus or wood waste and are already available a industrial scale. All monomers presented in this section exhibit post-reticulable moieties of interest for thermoset materials synthesis.

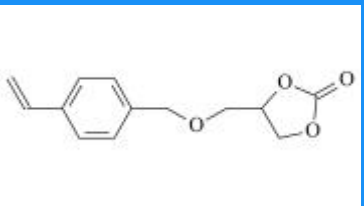
Fache, M. et al., Green Chem., 2014, 16, 1987
Sainz, M. F. et al., Polym. Chem., 2016, 7, 2882

FUNCTIONAL STYRENIC MONOMERS

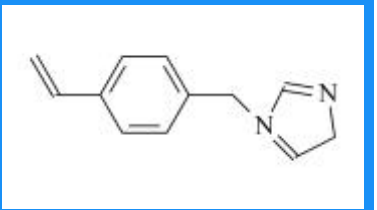
You can find below some other fonctional styrenic monomers from our catalog. Styrene PEG can be used to prepare **amphiphilic graft copolymers** by free radical polymerization. Lateral PEG chains of different lenght can be provided. **Cyclocarbonates** can be used as crosslinking moieties for synthesis of isocyanate-free polyurethane thermoset materials. **Imidazole** is a functional group of interest in the biomedical field since it can have biophysical interactions with drugs and proteins.



SP-53-001
Styrene PEG



SP-59-006
Styrene Cyclocarbonate



SP-59-005
Styrene Imidazole

Looking a specific monomer for your application ?
SPECIFIC POLYMERS offer CUSTOM SYNTHESIS programs

- SPECIFIC POLYMERS can produce **from grams to hundred grams** depending on the targeted molecule.
- All products are delivered with a **synthesis report** including experimental details and analyses.
- Report on the project progress by **regular phone meeting**
- **Feasibility evaluation** can be proposed depending of customer wishes (targeted structures, quantities)

CONTACT US

CATALOG

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