

The use of polymers derived from fossil sources is widely extended in areas as diverse as food packaging, house appliances and personal care. They are inexpensive, easy to produce and present a large variety of properties. Consequently, their production has been growing exponentially since their synthesis of the first artificial polymer and it is expected to keep increasing. However, the global concern for the environment create the necessity to look for more sustainable sources. Pinenes are bicyclic unsaturated hydrocarbons naturally found in pine trees. These compounds are commonly used in the fragrance industry and they are obtained from the waste of paper or wood manufacture. We have previously demonstrated that pinenes and other terpenes can be functionalised and transformed into convenient monomers, which can be polymerised readily. Herein, we describe a new environmentally friendly synthesis of pinene monomers and their application as an alternative to petroleum-based monomers. At this stage, we have synthesised alpha- and beta-pinene acrylates and methacrylates in multi-gram scale in an industrially viable process. We envisage to produce pinene monomers in multi-kilogram scale and to start their commercialisation in the next year. Personal care and coating companies have been testing the products with promising results. The nature of these areas of business and their current trend on natural-based products is excellent for introducing Cornelius in the market of sustainable monomers and building blocks.