

Smart, Sustainable, and Ecofriendly Chemical Design of Fully Bio-Based Thermally Stable Thermosets Based on Benzoxazine Chemistry



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Invited for this month's cover are the groups at the Department of Macromolecular Science and Engineering, from Case Western Reserve University (CWRU), and Design and Chemistry of Macromolecules Group, from Institute of Technology in Polymers and Nanotechnology (ITPN), directed by Prof. Dr. Hatsuo Ishida and Prof. Dr. Pablo Froimowicz, respectively. The image symbolizes how in the ever-growing 'Universe of Benzoxazines' there is always room for new discoveries. The Full Paper itself is available at 10.1002/cssc.201600577.

What inspired you for the cover image?

Perhaps the analogy with a space travel across the universe where no matter the direction there are always new amazing 'things' to be discovered, letting us know and appreciate deeper what we have in hand.

A few years ago, only very few examples of naturally based benzoxazines were known. That was the early stages of a journey that today may be seen as the development of a novel full topic, biomass-based benzoxazines and polybenzoxazines. Nowadays, new materials based on natural renewable raw materials are investigated, studied, formulated, and applied. Those early 'launches' helped to 'launch' this novel yet established field within the benzoxazines' arena, represented in the cover as the 'Green Galaxy of Benzoxazines'.

What is in your opinion an upcoming research theme likely to become one of the 'hot topics' in the near future?

It is hard to make futurology in this sense because there are so many different and equally relevant fields, each of them with their respective subdisciplines. Nevertheless, what we can envisage is that regardless what the upcoming hot topic or topics might be, they will certainly have to involve the right tools to efficiently design and develop novel materials exploiting good chemistry based on renewable natural resources and sustainability. This last concept applies not only to the materials themselves but also to their raw materials and methodologies used.

