



A new prestigious scientific publication for Carbios marks the expansion of its research to other plastics

- The publication in *Chemical Reviews*, one of the 10 most influential scientific journals in the world, marks a turning point for Carbios in the search for enzymes to degrade plastics other than PET and PLA
- By collaborating with Toulouse Biotechnology Institute (TBI¹) and the University of Bordeaux, Carbios brings together different fields of expertise to advance plastics circularity

Clermont-Ferrand, France, 21 March 2023 (19.00 ECT). Carbios (Euronext Growth Paris: ALCRB), a pioneer in the development and industrialization of biological technologies to reinvent the life cycle of plastics and textiles, announces the publication of an article entitled "*Enzymes' power for plastics degradation*" in *Chemical Reviews*, one of the 10 most influential scientific journals in the world. The article is a comprehensive and critical review of research published to date on the enzymatic degradation of all types of plastics (PET, PLA, polyolefins, polyurethanes, polyamides) and includes almost 700 references. Co-authored by biotechnology researchers from Carbios and its academic partner Toulouse Biotechnology Institute (TBI), as well as two eminent professors in polymer science from the University of Bordeaux, the work brings together expertise in the fields of enzymology, polymer science and industry in order to accelerate the transition to a circular economy for plastic.

Beyond the comprehensive bibliographical study, the authors analyzed the data to discuss the scope, limitations, challenges and opportunities of enzymatic plastic recycling with a view to developing innovations and industrial processes. The article's unique standpoint and added value with regard to issues surrounding plastic pollution is its critical view on technology transfer and industrial scalability.

"Any new scientific research project begins with an exhaustive bibliographical study, as we did for our PET biorecycling and PLA biodegradation technologies. Today, Carbios is the most advanced company in the industrialization of its PET biorecycling technology," commented **Alain Marty, Chief Scientific Officer at Carbios**. *"Carbios' mission is to bring all types of plastics into the circular economy. I am therefore very proud to have collaborated with our long-term partner TBI, as well as with new partners at the University of Bordeaux, on the article published in *Chemical Reviews* which will serve as the basis for research into biological recycling solutions for other polymers."*

¹ Toulouse Biotechnology Institute, joint research unit associating INSA of Toulouse, CNRS and INRAE

"Following the invitation to write an article for the upcoming Thematic Issue of Chemical Reviews, we collaborated once more with Carbios. In line with the subject 'Bridging the Gaps: Learning from Catalysis across Boundaries', our collaboration goes beyond the boundaries of plastics and polymer science in order to consider industrial feasibility, and find new solutions for different polymers using biocatalysis," said **Isabelle André, Research Director at CNRS**. "As a researcher, it is always gratifying and rewarding to see the fruit of hard work published in a prestigious journal, and I congratulate all the researchers involved."

To read the article in Chemical Reviews, click here : <https://pubs.acs.org/doi/10.1021/acs.chemrev.2c00644>

Publication has been scheduled for the upcoming Thematic Issue "Bridging the Gaps: Learning from Catalysis across Boundaries".

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About Carbios

Established in 2011 by [Truffle Capital](#), Carbios is a green chemistry company, developing biological and innovative processes. Through its unique approach of combining enzymes and plastics, Carbios aims to address new consumer expectations and the challenges of a broad ecological transition by taking up a major challenge of our time: plastic and textile pollution. Carbios deconstructs any type of PET (the dominant polymer in bottles, trays, textiles made of polyester) into its basic components which can then be reused to produce new PET plastics with equivalent quality to virgin ones. This PET innovation, the first of its kind in the world, was recently recognized in a scientific paper published on the front cover of the prestigious journal Nature. Carbios successfully started up its demonstration plant in Clermont-Ferrand in 2021. It has now taken another key step towards the industrialization of its process with the construction of a first-of-a-kind unit in partnership with Indorama Ventures.

In 2017, Carbios and L'Oréal co-founded a consortium to contribute to the industrialization of its proprietary recycling technology. Committed to developing innovative solutions for sustainable development, Nestlé Waters, PepsiCo and Suntory Beverage & Food Europe joined this consortium in April 2019. In 2022, Carbios signed an agreement with On, Patagonia, PUMA, and Salomon, to develop solutions promoting the recyclability and circularity of their products. PVH Corp. joined this consortium in January 2023.

The Company has also developed an enzymatic biodegradation technology for PLA-based (a bio sourced polymer) single-use plastics. This technology can create a new generation of plastics that are 100% compostable in domestic conditions, integrating enzymes at the heart of the plastic product.

For more information, please visit www.carbios.com/en / Twitter: [Carbios](#) LinkedIn: [Carbios](#) Instagram: [insidecarbios](#)



Carbios (ISIN FR0011648716/ALCRB) is eligible for the PEA-PME, a government program allowing French residents investing in SMEs to benefit from income tax rebates.

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