Showcasing research from Prof. Silvia Giordani's Group at the School of Chemical Sciences in Dublin City University, Dublin, Ireland.

Synthesis of carbon dots from spent coffee grounds: transforming waste into potential biomedical tools

In this study, fluorescent carbon dots (CDs) have been synthesised by upcycling spent coffee grounds (SCGs). This low-cost synthetic route eliminates the need for highly toxic heavy metals and reduces energy-intensive reaction times, thereby enhancing both biocompatibility and environmental benefits. *In vitro* studies of SCG-derived CDs demonstrated their specific antiproliferative effect on the breast cancer CAL-51 cell lines, while showing no adverse impact on healthy breast, kidney, and liver cells.

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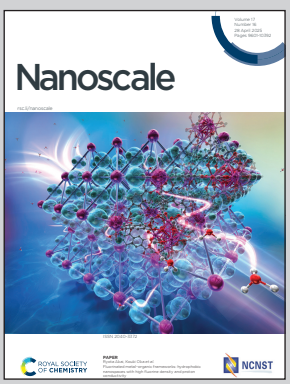

See Alex J. Eustace, Silvia Giordani *et al.*, *Nanoscale*, 2025, **17**, 9947.

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