

JOINT EVENT

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&
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Tuning biomass pyrolysis for polymer precursors

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All humans must reduce their dependency on fossil fuels. Just as polymers are a big part of modern life, so too crude oil is a big part of these polymers. Current estimates are that in order to produce a one litre water bottle, 250 mL of crude oil is consumed in heating, transport and raw material use.[1] Pyrolysis of biomass is a route to chemicals useful in applications similar to those derived from fossil fuels. Microwave pyrolysis allows more accurate and precise temperature control throughout the reaction. This improved temperature control allows more selective pyrolysis, yielding distinct aqueous and organic phases with partitioning of the pyrolysis products. These products have potential as feedstock for goods we use daily, and have undergone a primary separation during the microwave pyrolysis process itself. Characterisation and subsequent derivatisation of the aqueous and organic phases from microwave pyrolysis are outlined and compared to that of conventional pyrolysis methods.



Biography

Originally from Lincolnshire, UK. John is currently a second year PhD student as part of the Centre for Doctoral Training in sustainable chemistry based in the University of Nottingham's Carbon Neutral Laboratory.

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