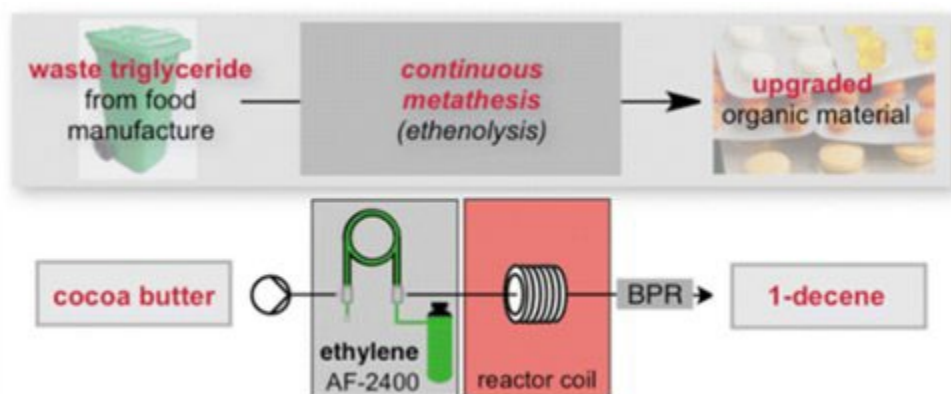


Publication 50: Continuous Flow Metathesis for Direct Valorization of Cocoa Butter Triglyceride Food Waste



The direct chemical conversion of cocoa butter triglycerides, a material available as a postmanufacture waste stream from the food industry, to 1-decene by way of ethenolysis is reported. The conversion of the raw waste material was made possible by use of 1 mol % of the [RuCl₂(iBu-phoban)-2-(3-phenylindenyl)] catalyst.

The process has been investigated in both batch and flow conditions, where the latter approach employs a Teflon AF-2400 tube-in-tube gas-liquid membrane contactor to deliver ethylene to the reaction system.

These preliminary studies culminate in a continuous processing system, which maintained a constant output over a 150 min period tested.

[C. Schotten, D. Plaza, S. Manzini, S. P. Nolan, S. V. Ley, D. L. Browne, Alexei Lapkin, ACS Sustainable Chem. Eng., 2015, 3 \(7\), pp 1453–1459](#)