Supporting information for the article:

Titania-catalysed oxidative dehydrogenation of ethyl lactate: Effective yet selective free-radical oxidation

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This supporting information contains three graphs, showing the experimental data for leaching test, catalyst reuse and calorimetric measurement of acetone adsorption on TiO_2.

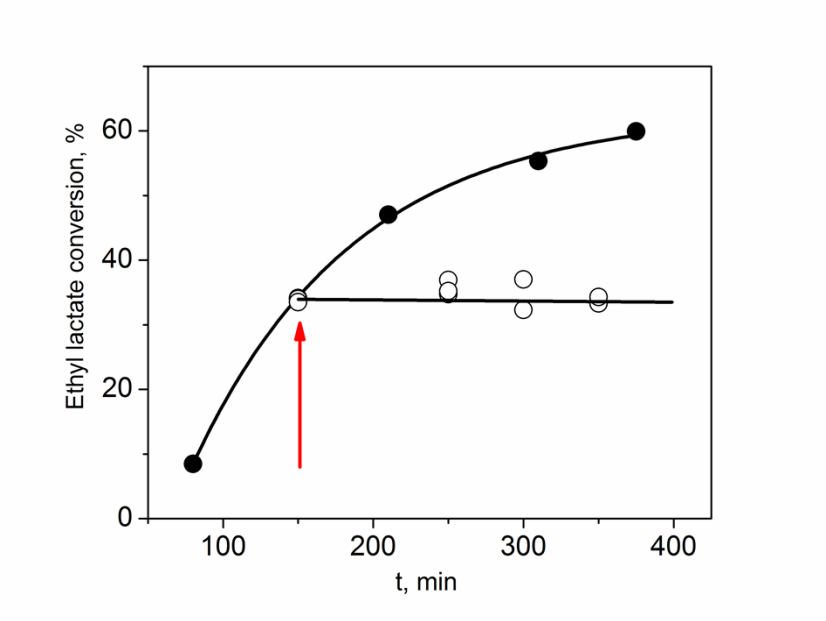

Figure S1. Testing for leaching. The graph shows two experiments. The black circles show the control reaction; conversion of ethyl lactate versus time. The white circles show the test reaction. TiO_2 was used as catalyst. The reaction was performed at 130 °C without solvent and keeping a substrate: catalyst ratio of 100:1. After 150 min, the catalyst was filtered from the reaction mixture, and the clear filtrate was maintained at the reaction conditions. The reaction is suppressed after filtration, indicating that no active species are leaching into solution.

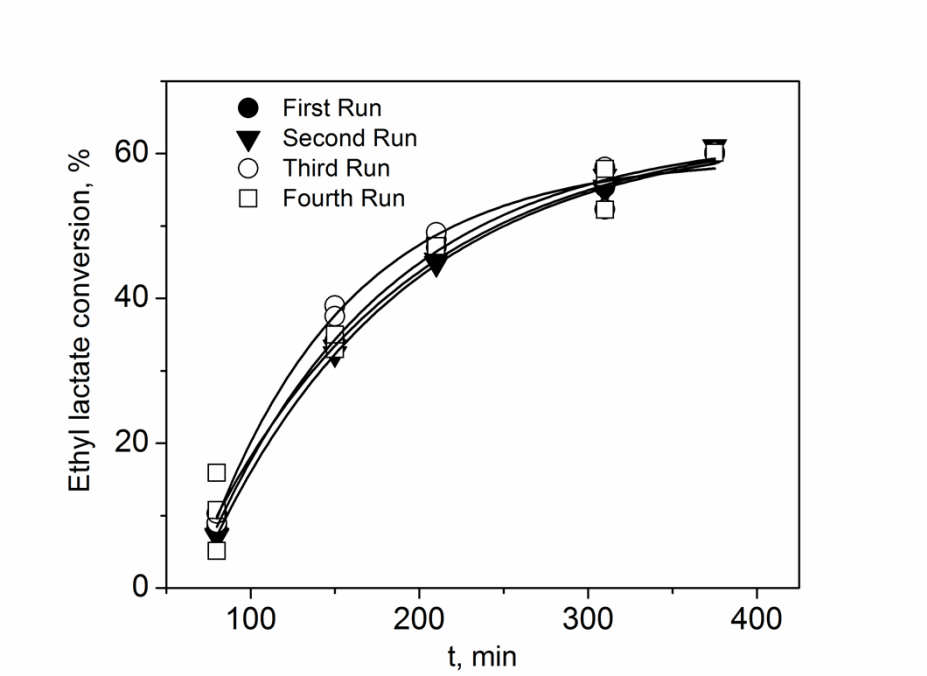

Figure S2. Catalyst re-use: Conversion profiles of ethyl lactate versus time in a series of reactions using the same batch of catalyst. TiO_2 was used as catalyst, and reactions were run at 130 °C without solvent and keeping a substrate: catalyst ratio of 100:1. After every run, the catalyst was filtered off and calcined at 350 °C (static air; 5h). The results show that the catalyst can be fully reused at least four times.

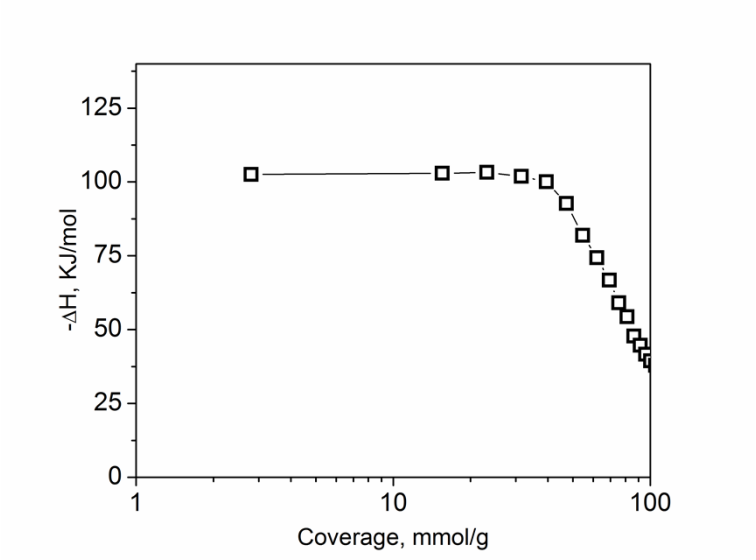

Figure S3. Differential heat of adsorption of acetone against the coverage in mmol/g on TiO_2.