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Combined dehydration/(transfer)-hydrogenation of C6-sugars (D-glucose and D-fructose) to gamma-valerolactone using ruthenium catalysts

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Supplementary information to "Combined Dehydration/(transfer)-Hydrogenation of C6-sugars (D-glucose and D-fructose) to γ -valerolactone using ruthenium catalysts "

Hans Heeres, Ratna Handana, Dai Chunai, Carolus Borromeus Rasrendra, Buana Girisuta, Hero Jan Heeres*

Selected HPLC chromatograms of reaction products:

1. Conversion of D-Fructose to LA using TFA as the catalyst

0.5 M Fructose, 0.5 M TFA, T=180C, 10 mins

2. Conversion of D-Fructose to GVL using hydrogen, TFA as the acid and Ru/C as the hydrogenation catalyst (Table 2, entry 6)

HPLC chromatogram of entry 6, table 2
(D-Fructose and hydrogen)

1 TFA
2 fructose
3 formic acid
4 acetic acid
5 levulinic acid
6 GVL