Electronic Supplementary Material (ESI) for Catalysis Science & Technology.

Supporting Information

Catalytic conversion of cellulose to C_2-C_3 glycols by a dual association of a homogeneous metallic salt and a perovskite-supported platinum catalyst

E. Girard,[a,*] D. Delcroix[a] and A. Cabiac[a]

[a] IFP Energies Nouvelles, Rond-Point de l'Echangeur de Solaize, BP3, 69360 Solaize, France

* To whom correspondence should be addressed : etienne.girard@ifpen.fr

Supplementary data relative to effluent characterization

GC-FID results (Entry 11 in Table 2)

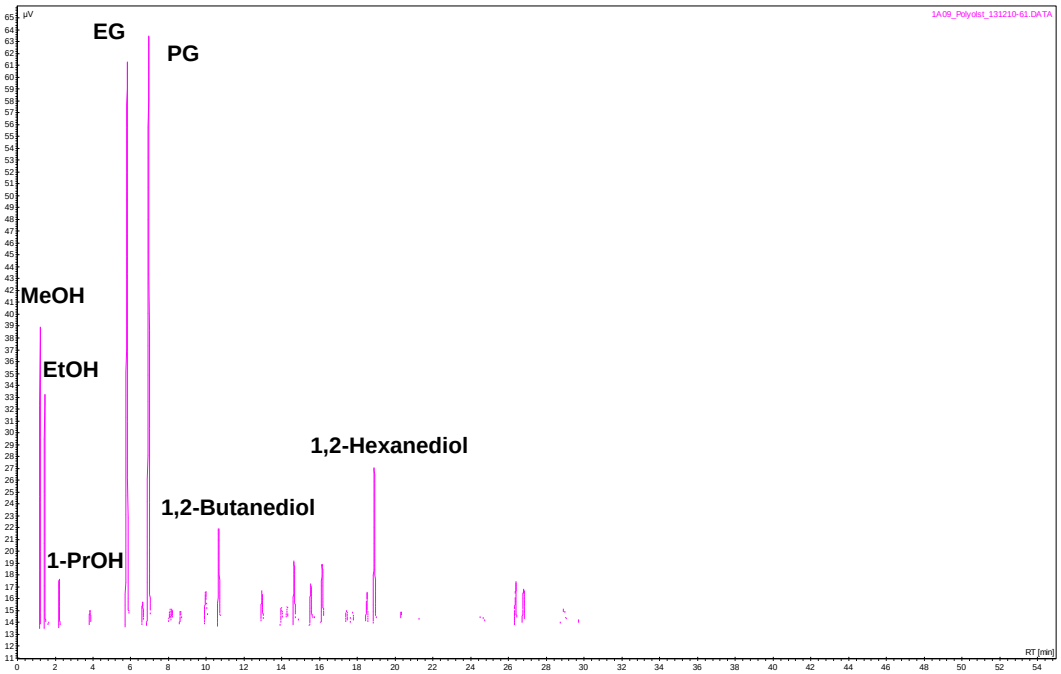

Figure S1. GC-FID chromatogram of a effluent obtained with the $CeCl_3.7H_2O$ plus $Pt/BaZrO_3$ system at 230°C, a 25 bar H_2 pressure for 12 hours.

^{13}C NMR results (Entry 6 in Table 1)

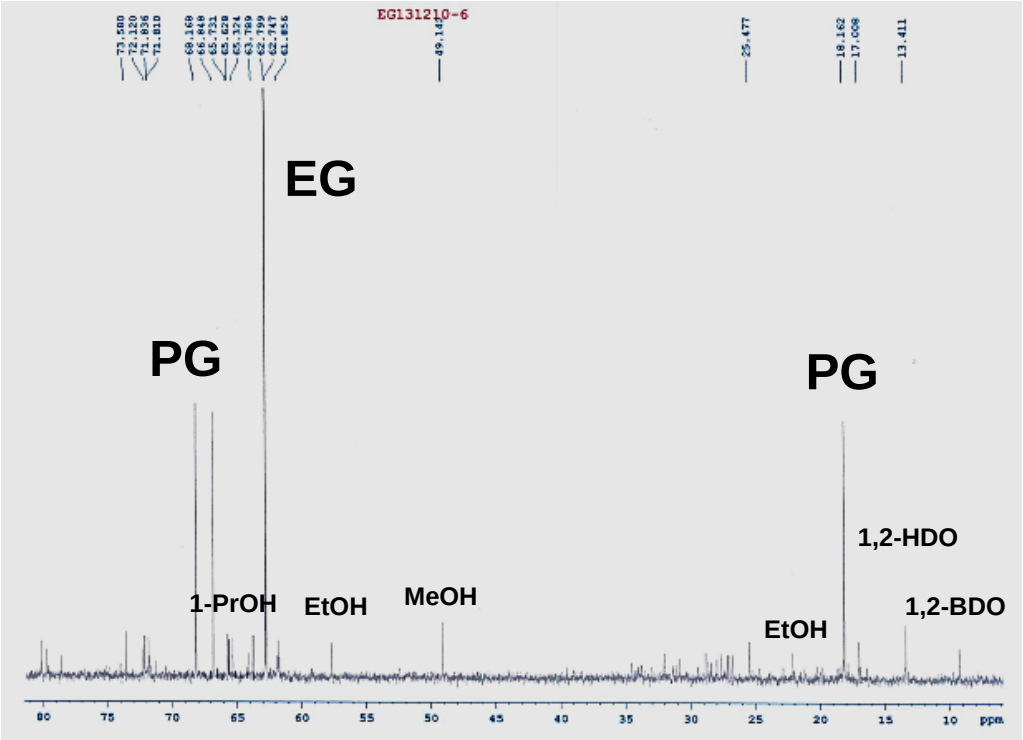

Figure S2. ^{13}C NMR spectrum of a effluent obtained with the $CeCl_3.7H_2O$ plus $Pt/BaZrO_3$ system at 230°C, a 25 bar H_2 pressure for 12 hours (recorded at room temperature on a Bruker AV 300 spectrometer (^{13}C : 75 MHz).

Supplementary data for the spent $Pt/BaZrO_3$ catalyst after a hydrothermal stability test

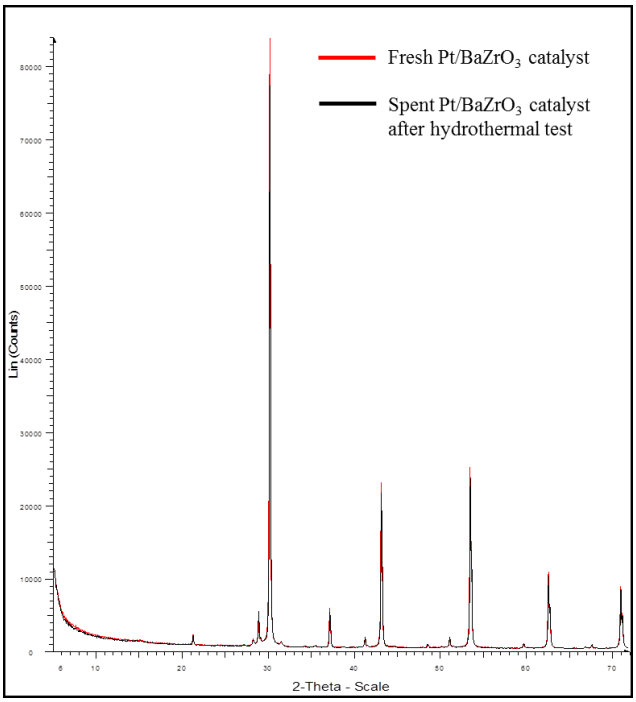

Figure S3. Overlays of DRX spectra for $Pt/BaZrO_3$ samples before/after a hydrothermal stability test at 230°C under a H_2 pressure of 25 bar in presence of $CeCl_3.7H_2O$ for 18 hours.

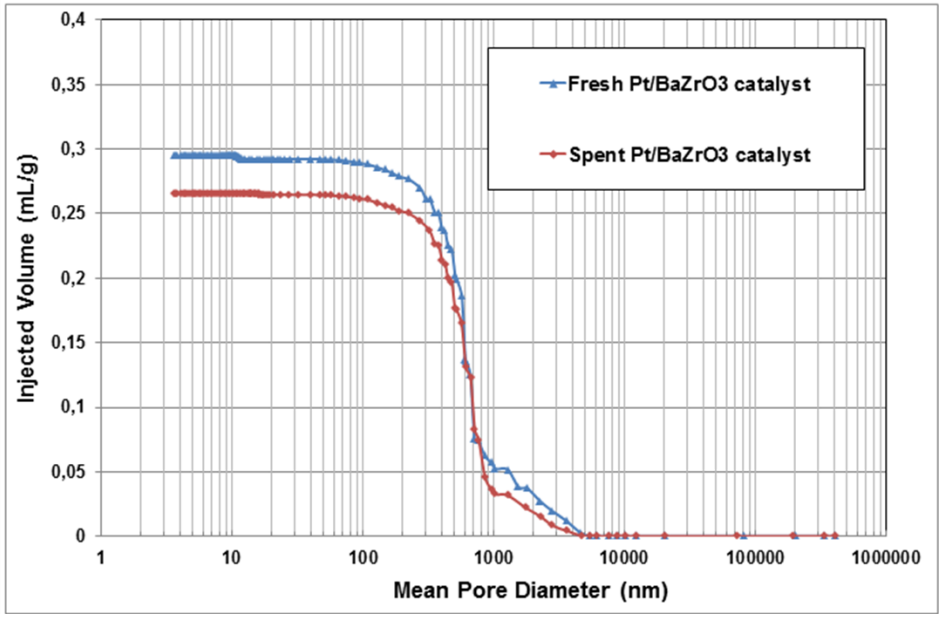

Figure S4. Overlays of mercury porosimetry curves for $Pt/BaZrO_3$ samples before/after a hydrothermal stability test at 230°C under a H_2 pressure of 25 bar in presence of $CeCl_3.7H_2O$ for 18 hours.

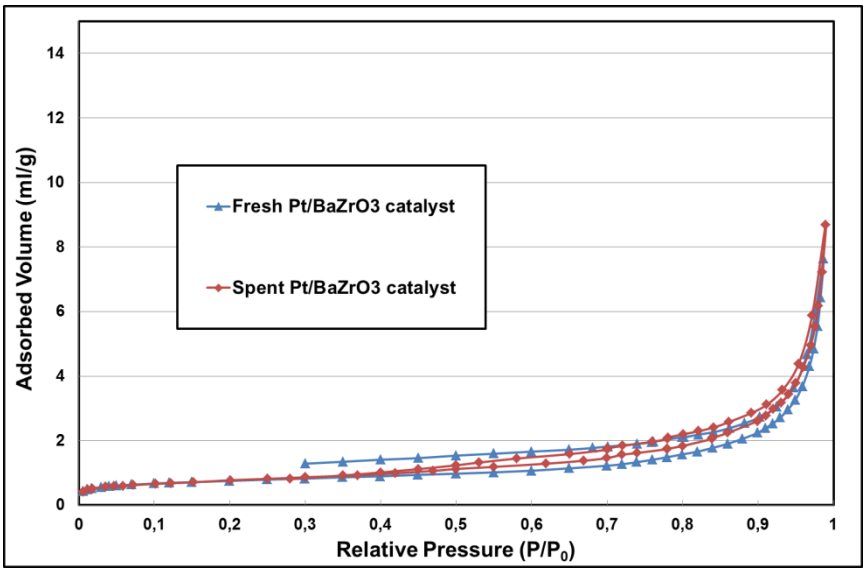

Figure S5. Overlays of N_2 adsorption-desorption isotherms for $Pt/BaZrO_3$ samples before/after a hydrothermal stability test at 230°C under a H_2 pressure of 25 bar in presence of $CeCl_3.7H_2O$ for 18 hours.

Element	ppm determined by ICP/MS	Relative weight percentage to the fresh catalyst composition
Pt	< 0.2	<0.25wt%
Ba	519 +/- 26	1.0wt%

Table S1. ICP/OES measurements for the aqueous effluent analyzed after a hydrothermal stability test at 230°C under a H_2 pressure of 25 bar in presence of $CeCl_3.7H_2O$ for 18 hours.