Supplementary Information

A Novel, Mesoporous Molybdenum Doped Titanium Dioxide/ Reduced Graphene Oxide Composite as a Green, Highly Efficient Solid Acid Catalyst for Acetalization

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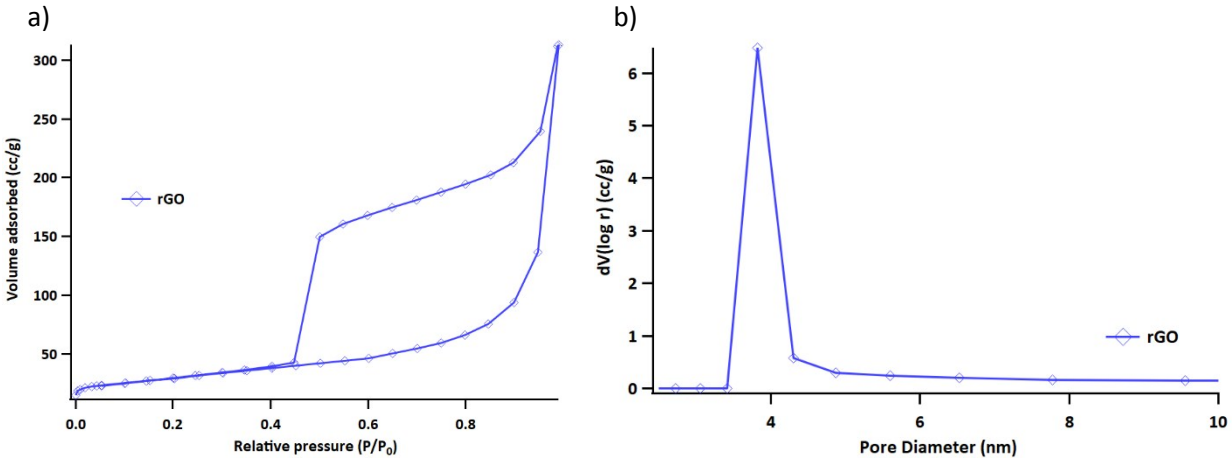

Figure 1. a) BET isotherm b) BJH pore size distribution curve of reduced graphene oxide (rGO).

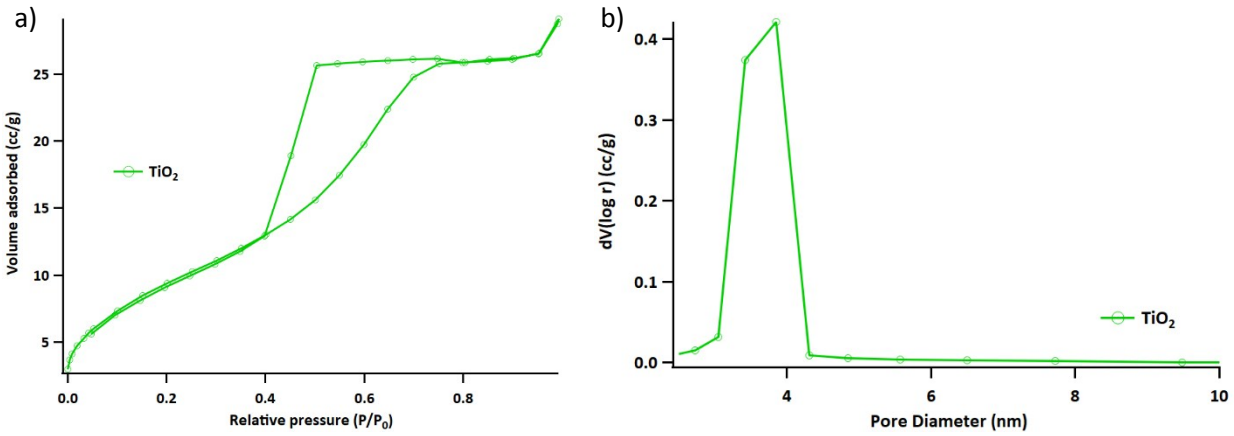

Figure 2. a) BET isotherm b) BJH pore size distribution curve of TiO_2.

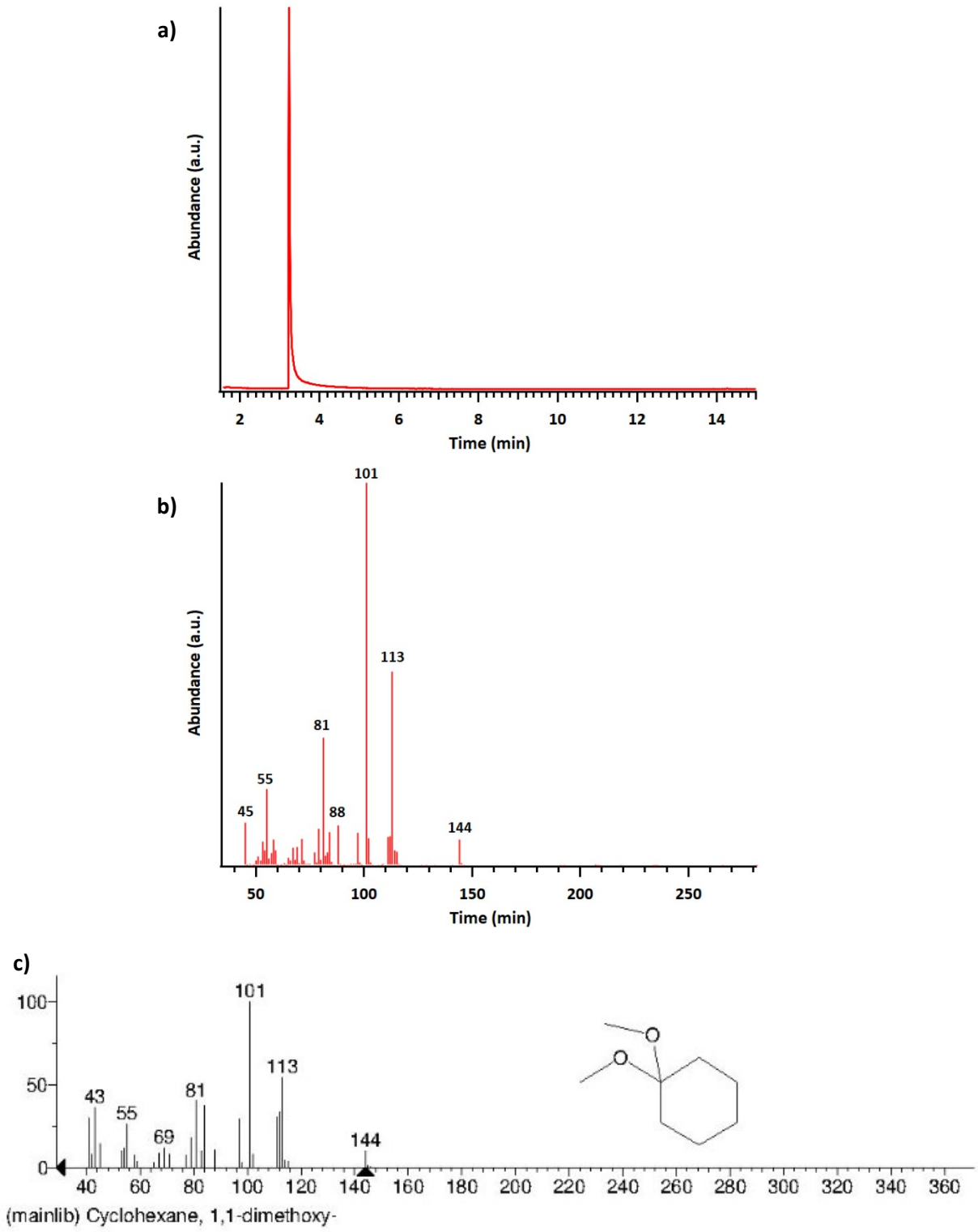

Figure 3. a) Gas Chromatogram b) mass spectrum of the product c) library mass spectrum of 1,1-dimethoxy cyclohexane.

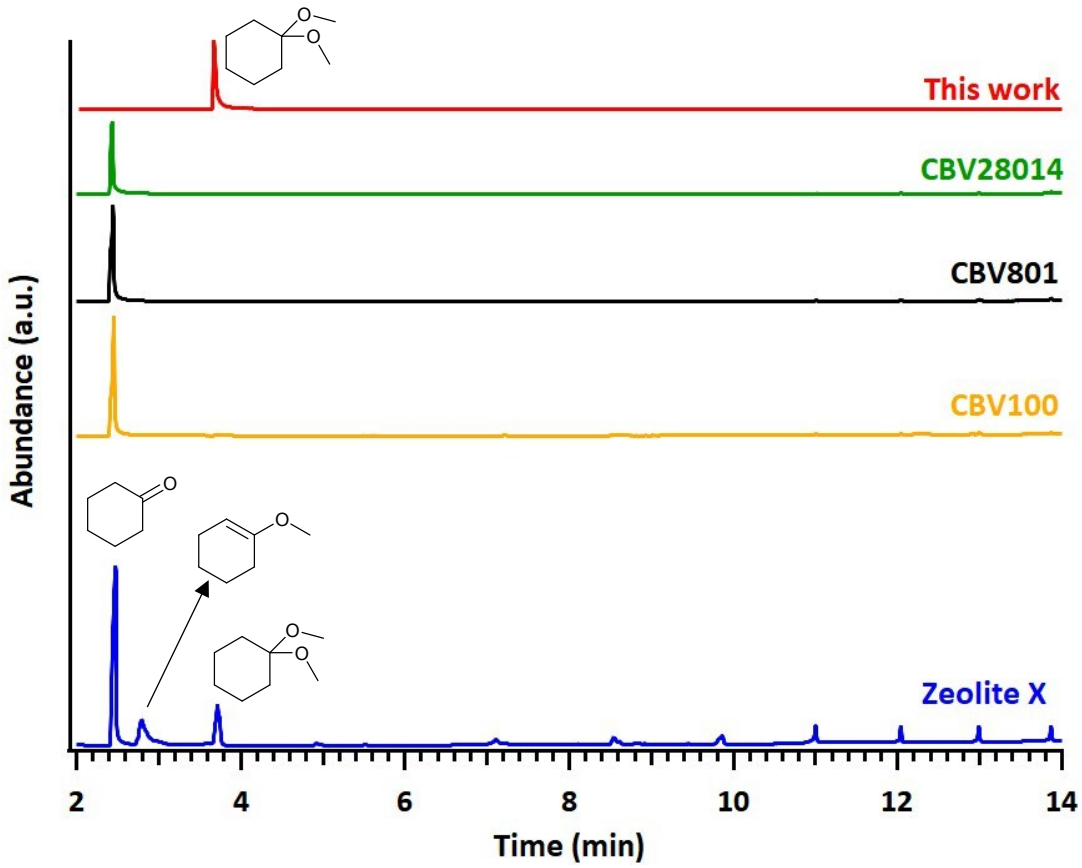

Figure 4. GC data obtained for the reactions conducted with different heterogeneous acid catalysts.

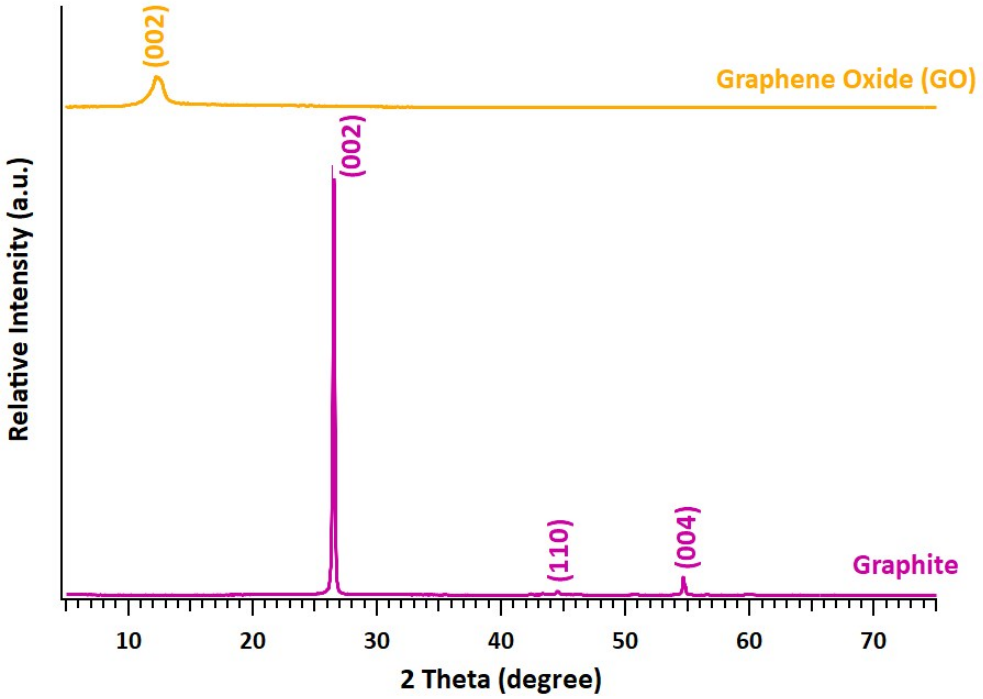

Figure 5. PXRD patterns of graphite and graphene oxide (GO).

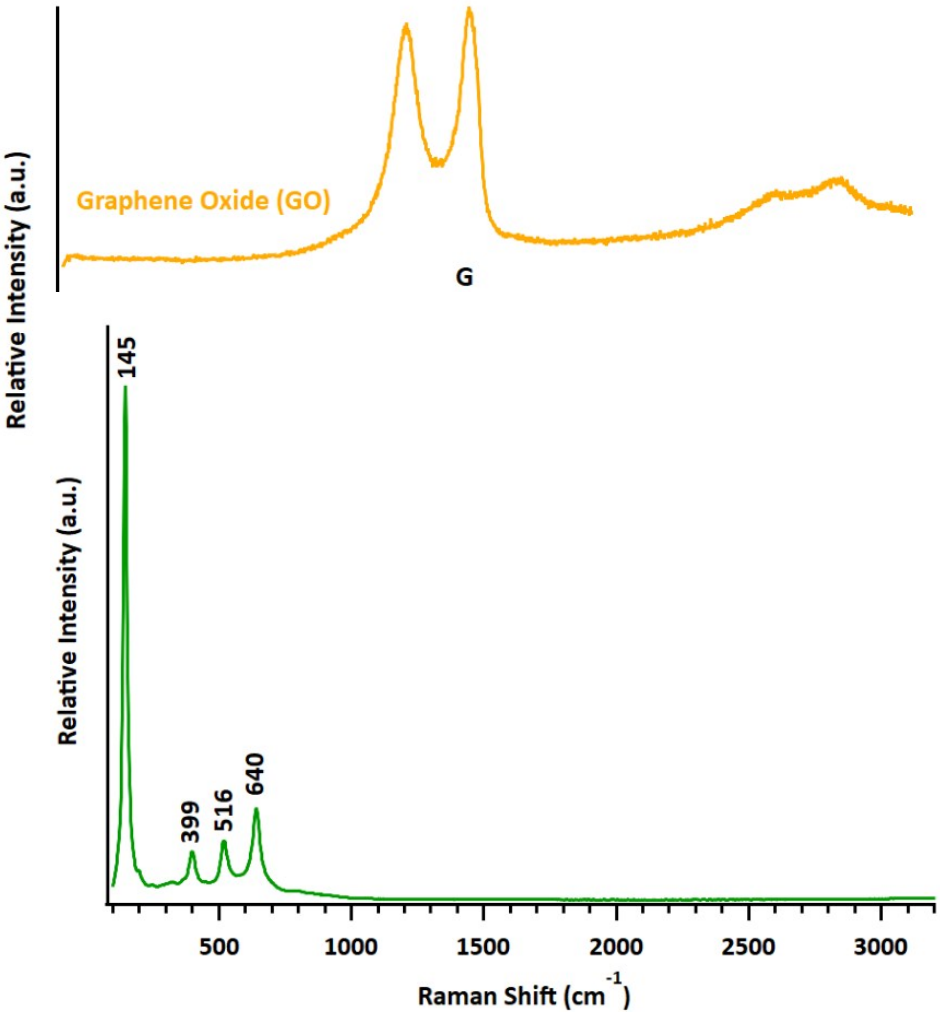

Figure 7. Raman spectrum of TiO_2.

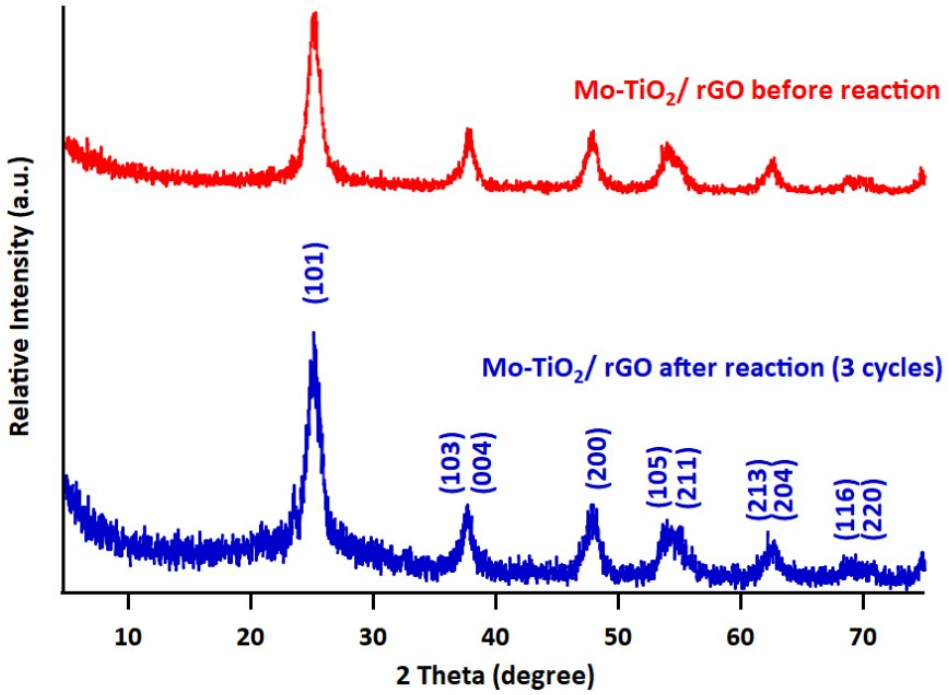

Figure 8. PXRD patterns of the catalyst before and after the acetalization reaction.

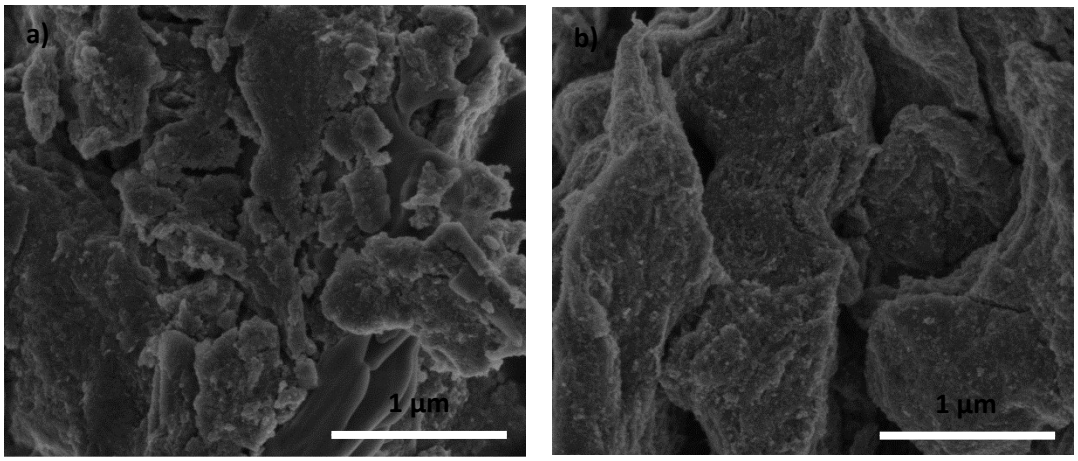

Figure 9. SEM images of the catalyst a) before and b) after the acetalization reaction.

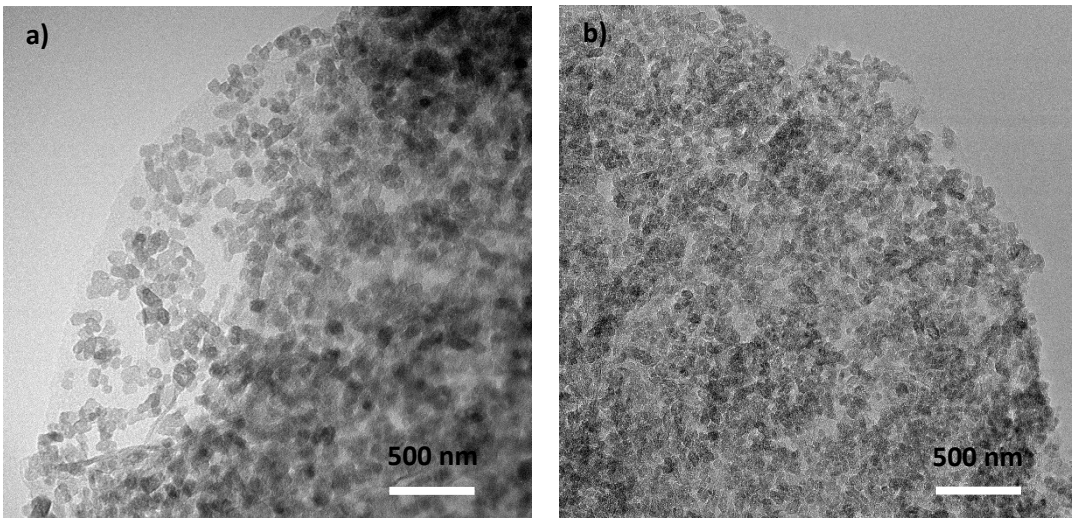

Figure 10. HR-TEM images of the catalyst a) before and b) after the acetalization reaction.

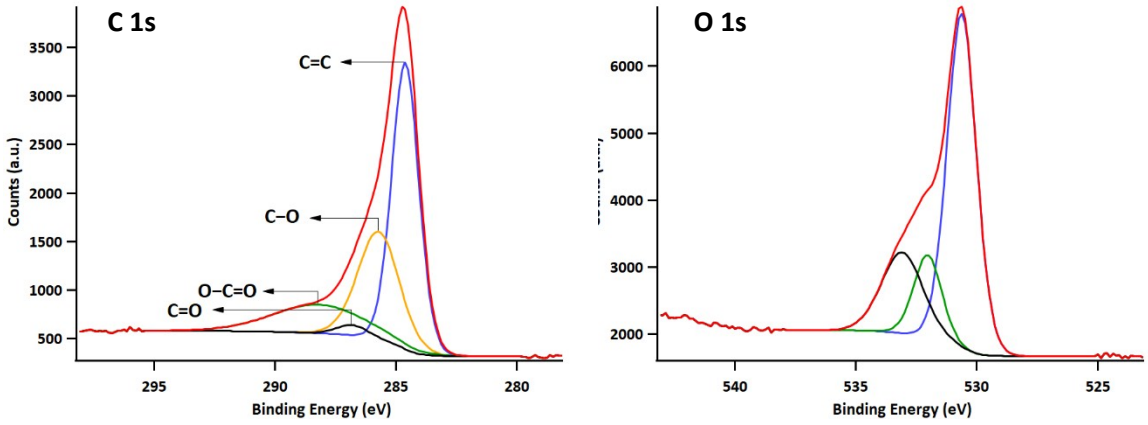

Figure 11. XP spectra of the catalyst after the acetalization reaction.

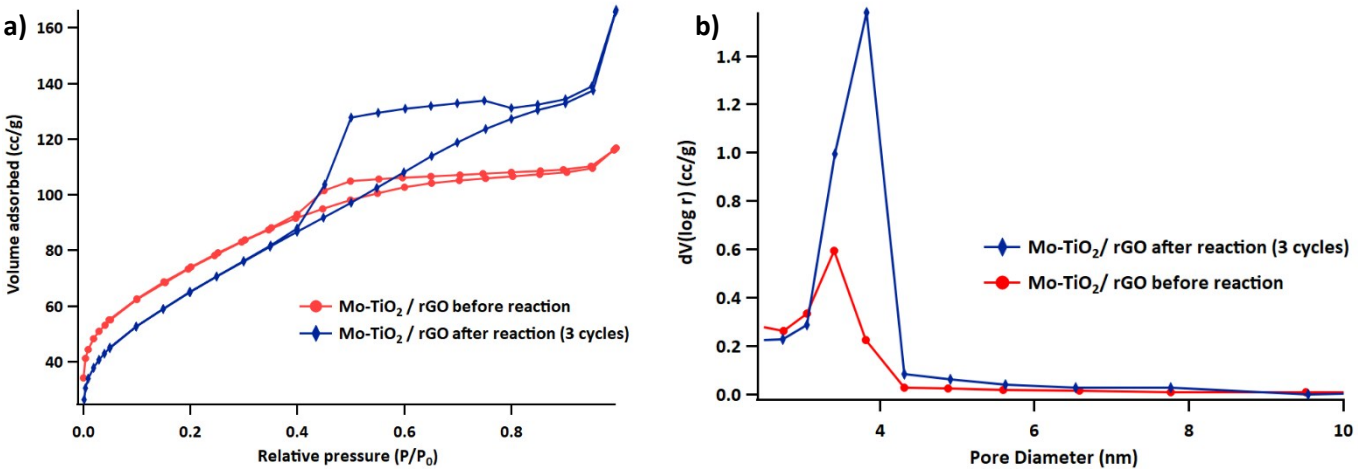

Figure 12. a) BET isotherms b) BJH pore size distribution curves of the catalyst before and after the acetalization reaction.

Table 1. The catalytic reactions performed using commercial acid catalysts.

Commercial acid catalyst	GC Yield (%)	TOF[a] (h^{-1})
Zeolite X	8%	0.1
CBV100	<1	ND[b]
CBV801	<1	ND[b]
CBV28014	<1	ND[b]