

Supplementary information: A bifunctional catalyst based on Nb and V oxides over alumina: oxidative cleavage of crude glycerol to green formic acid.

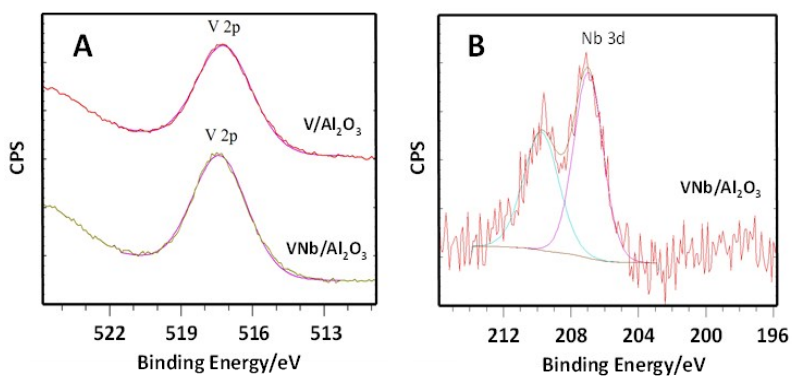


Figure S1. (A) V 2p and (B) Nb 3d XPS spectra of the V/Al₂O₃ and VNb/Al₂O₃ samples.

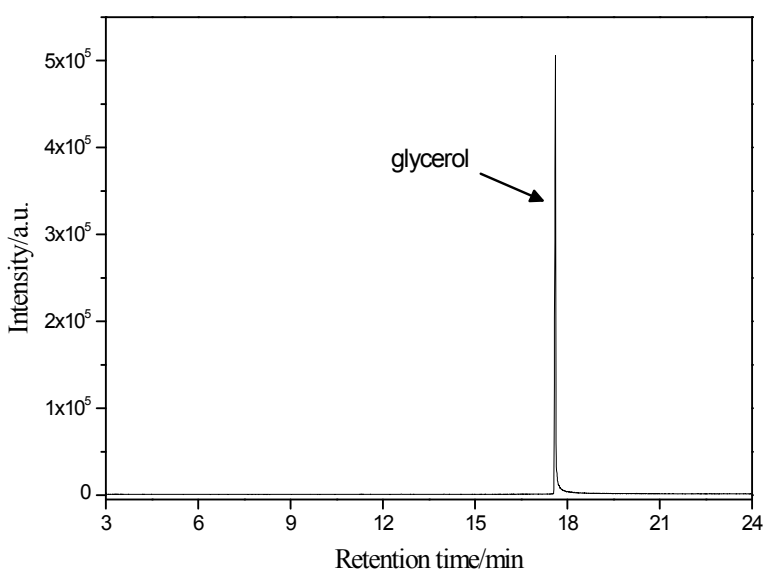


Figure S2. Waste glycerol chromatogram by GC-MS.

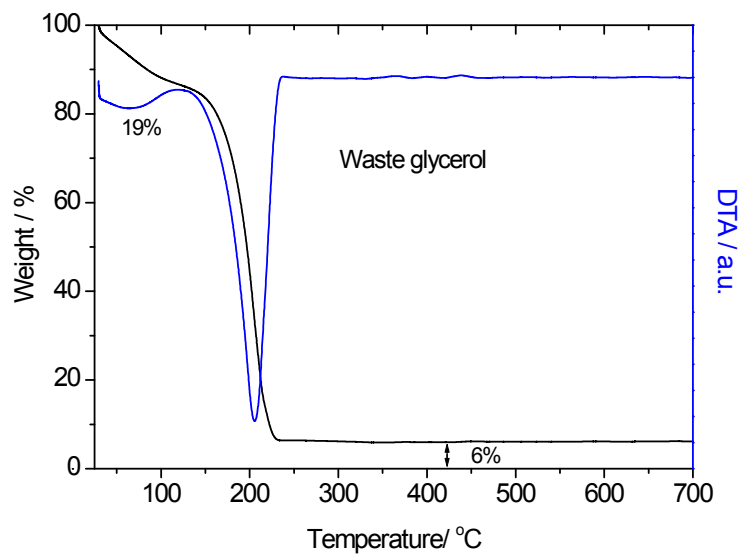


Figure S3. Thermogravimetric waste glycerol analysis under N₂ flow.