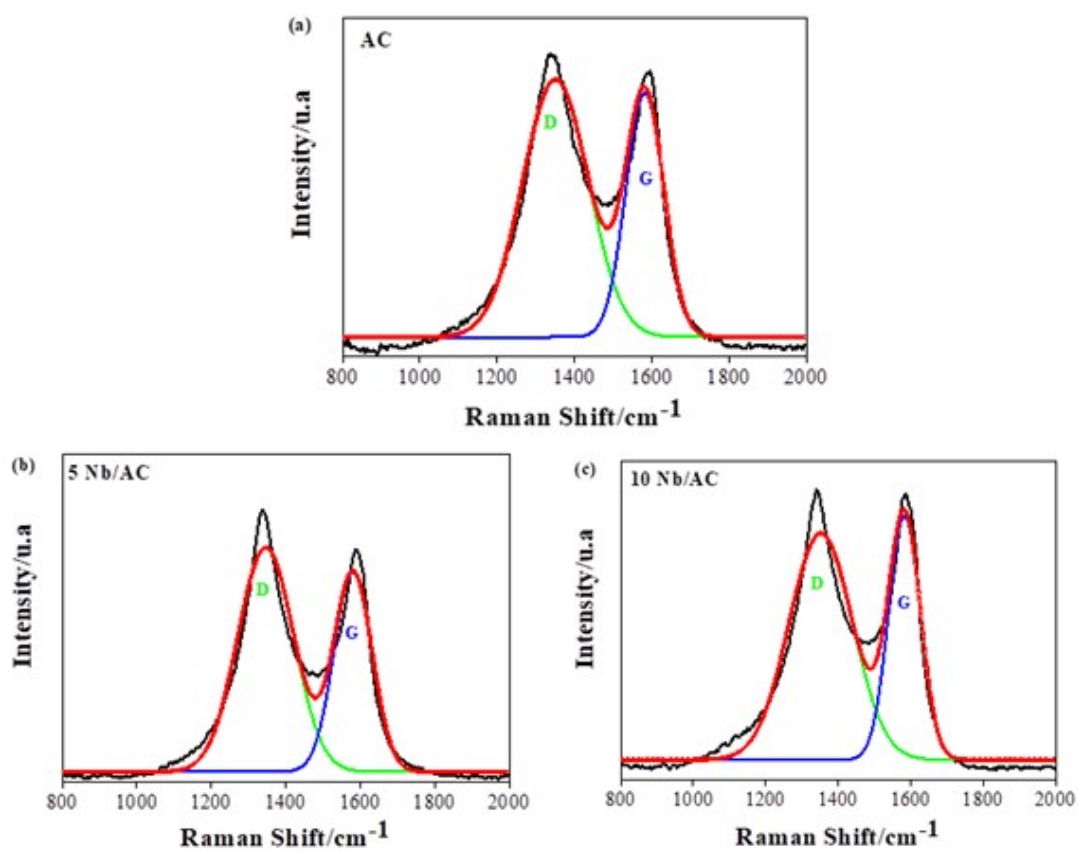


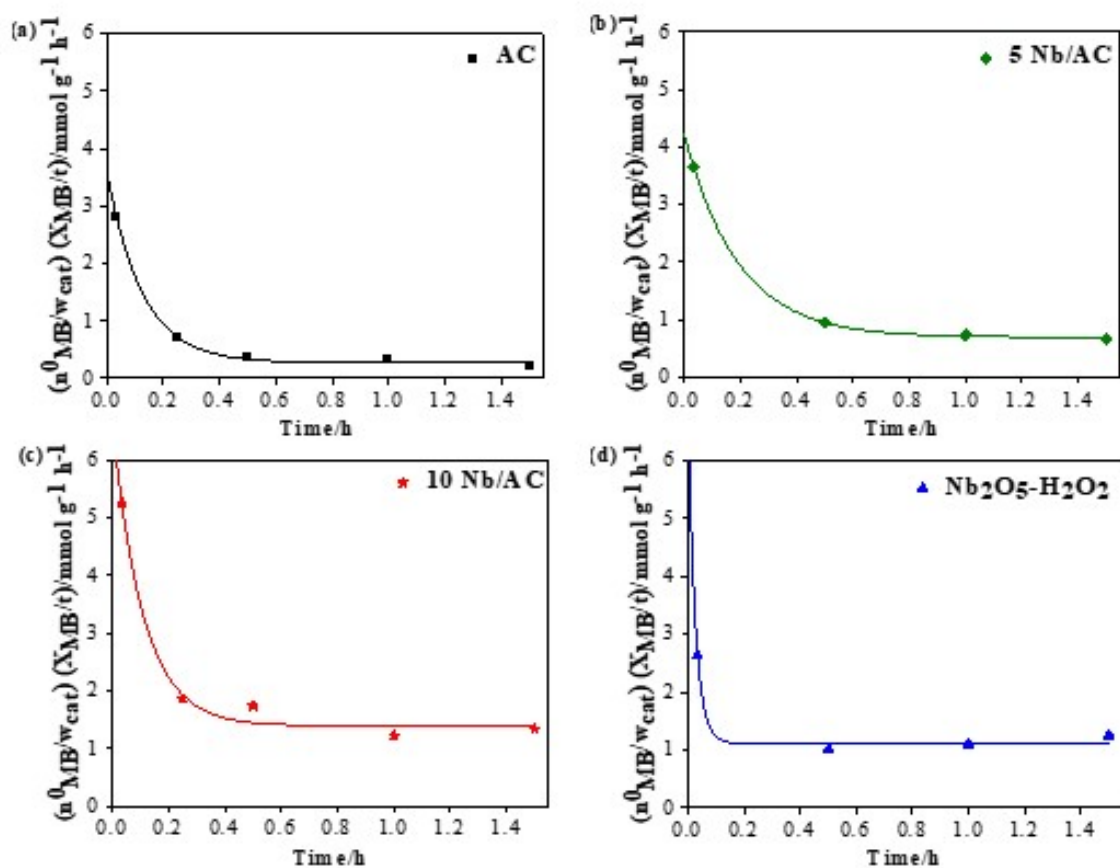
## SUPPLEMENTARY INFORMATION



**Figure S1.** Raman Spectra using Gauss of the samples AC, 5 Nb/AC, and 10 Nb/AC.

**Table S1.** The relative intensity ratio between band G and band D ( $I_G/I_D$ ).

Samples	R <sup>2</sup>	$I_G/I_D$
AC	0.86	0.86
5 Nb/AC	0.93	0.89
10 Nb/AC	0.90	1.07



**Figure S2.** Calculations of initial MB degradation rates for AC (a), 5 Nb/AC (b), 10 Nb/AC (c) and  $\text{Nb}_2\text{O}_5\text{-H}_2\text{O}_2$  (d) catalysts.