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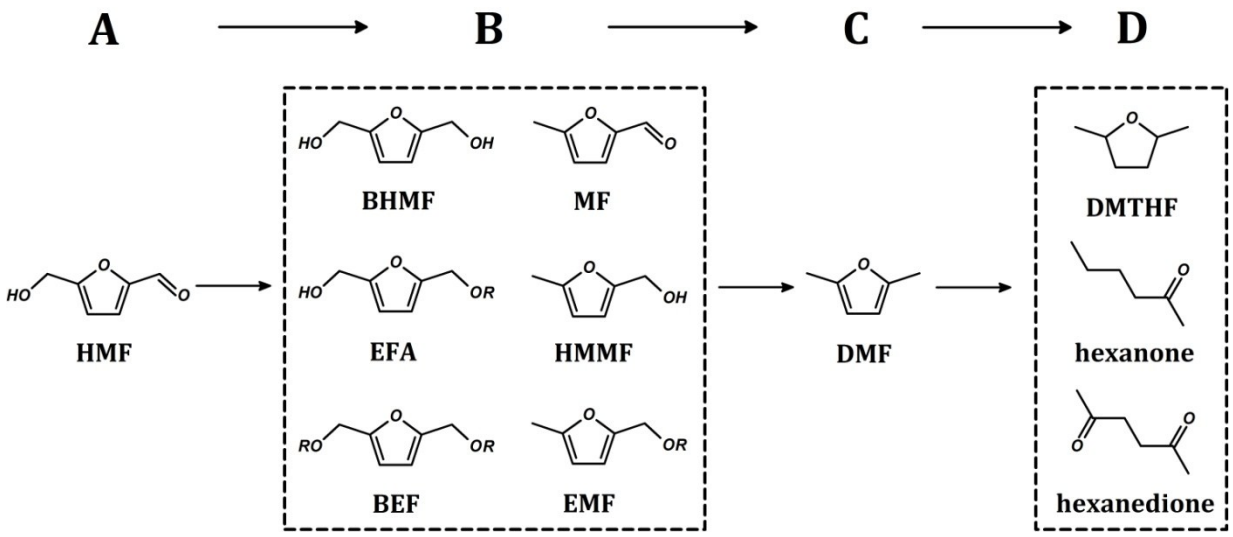


Scheme 1. Reaction network for HDO of HMF using alcohols as solvent.

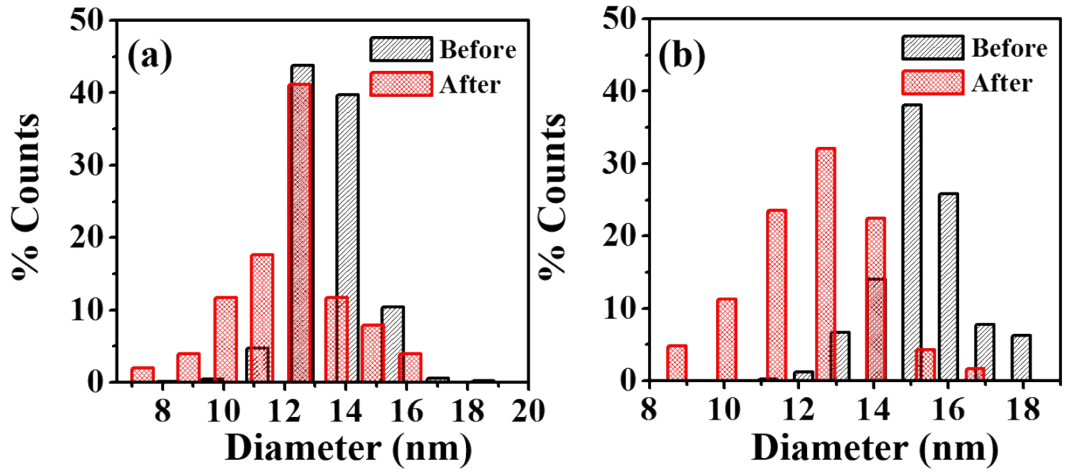


Figure S1. The size distributions of (a) NiCu and (b) $NiCu_3$ before (black) and after (red) catalytic reactions.

Table S1: XPS results summary. The relative contributions are calculated with respect to the whole area of the Ni $2p_{3/2}$ or Cu $2p_{3/2}$ region (100 %). The Ni:Cu ratio is calculated by integrating the area of Ni $2p_{3/2}$ corrected for the photoionization cross-section divided by the Cu $2p_{3/2}$ area, corrected in the same way.

	BE (eV)	Relative contribution to the Ni 2p or Cu 2p signal (%)			
		NiCu (UHV)	NiCu (H_2)	$NiCu_3$ (UHV)	$NiCu_3$ (H_2)
Ni^0	852.5	0	100	0	100
Ni^{2+}	853.7	56	0	52	0
Ni^{3+}	855.6	44	0	48	0
Cu^0	932.4	70	100	33	100
Cu^{2+}	934.7	30	0	67	0
Ni:Cu	-	0.8	0.9	0.8	0.9

Table S2. B and D group product distribution for HDO of HMF over 10-wt% Ni/C in 1-propanol, under 180 ºC and 33 bar. (Yield %)

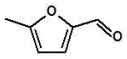
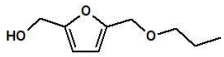
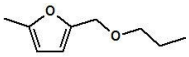
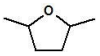
W/F (g·min/mL)	B group products			D group products	
					
0.5	2.3	14.8	3.2	0.2	1.1
1	1.2	2.6	1.1	0.4	5.4
2	<1	1.5	<1	0.3	10.7
4	0	0	0	1.5	21.0
8	0	0	0	6.0	23.1

Table S3. B and D group product distribution for HDO of HMF over 10-wt% impregnated NiCu/C in 1-propanol, under 180 ºC and 33 bar. (Yield %)

W/F (g·min/mL)	B group products			D group products	
	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
0.125	8.4	9.4	1.7	0	0
0.25	7.7	10	2.5	0	<1
0.5	4.8	7.1	<1	0	2.1
1	1.2	5.2	0	<1	3.2
2	0	3.3	0	5.3	8
4	0	0	0	17.5	18.9