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# Mechanochemical functionalization of mesoporous carbons for the catalytic transformation of trans-ferulic acid into vanillin

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## SUPPORTING INFORMATION

1. Textural properties.....	p.S2
2. TEM images.....	p. S3
3. GC-MS spectra.....	p.S3
4. Catalytic activity comparison.....	p.S4

## 1. Textural properties

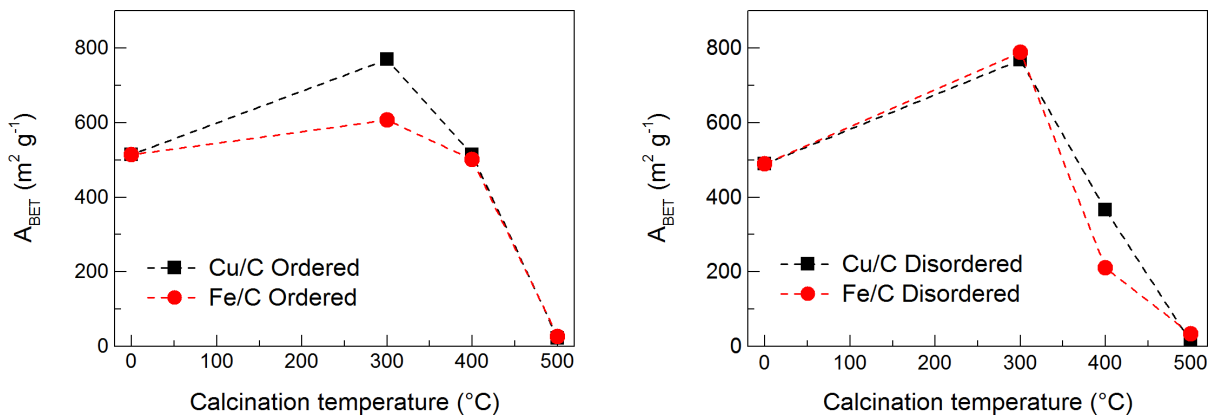


Figure S1. Evolution of  $A_{\text{BET}}$  with calcination temperature.

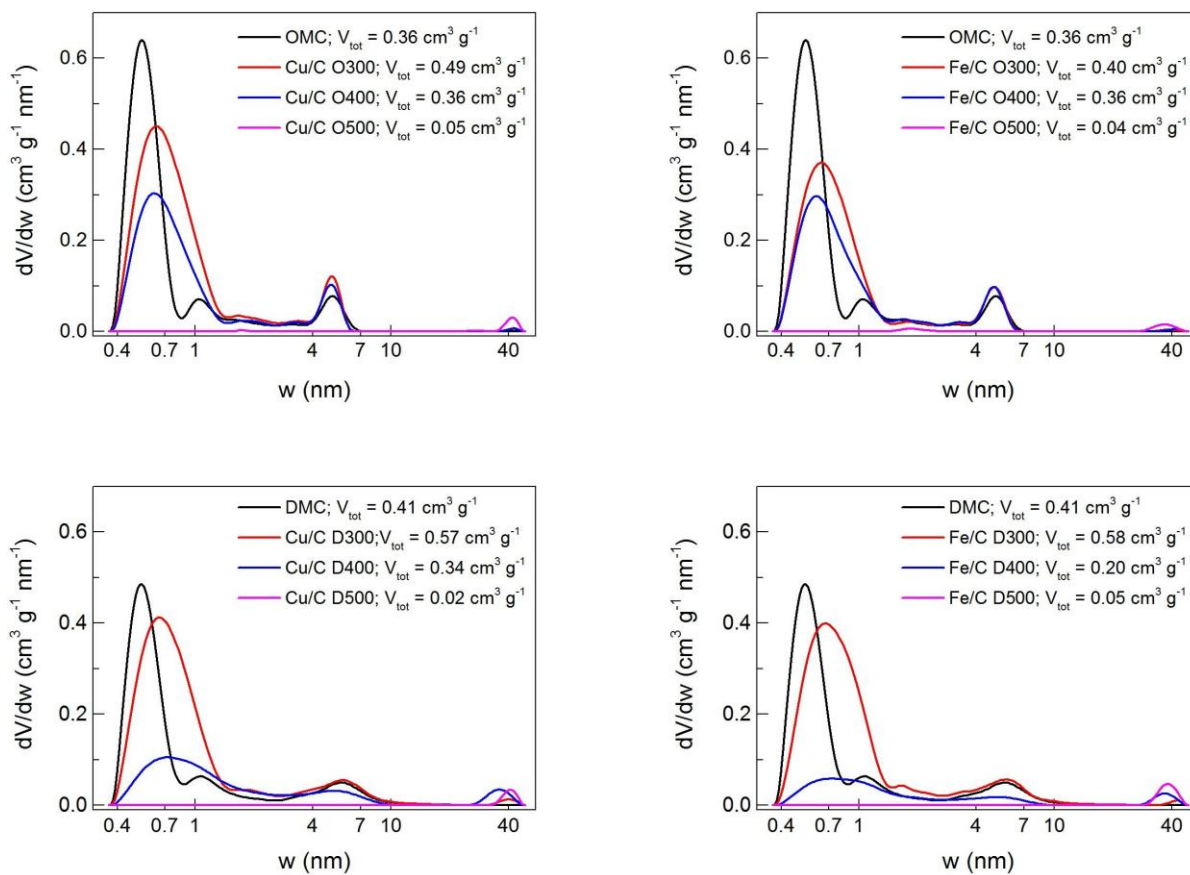


Figure S2. PSDs obtained by applying the 2D-NLDFT model to the adsorption branch of  $\text{N}_2$  isotherms. Total pore volume ( $V_{\text{tot}}$ ) was considered as the adsorbed volume at a relative pressure of 0.97.

## 2. TEM images

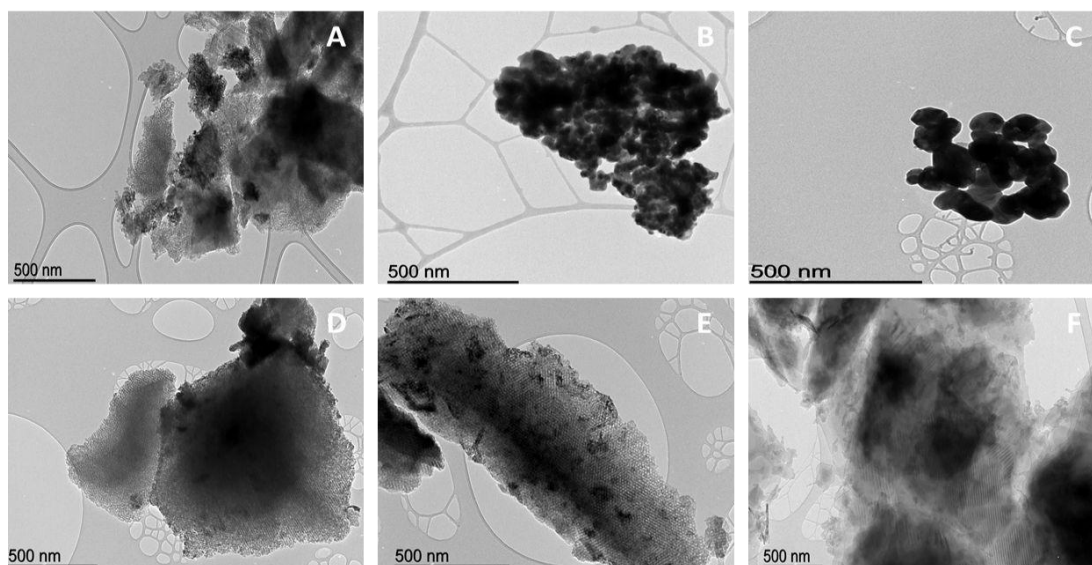


Figure S3. TEM image of synthesized materials at 500 nm. A: Cu/C D300; B: Cu/C D400; C: Cu/C D500; D: Cu/C O300; E: Cu/C O400; F: Cu/C O500.

## 3. GC-MS spectra

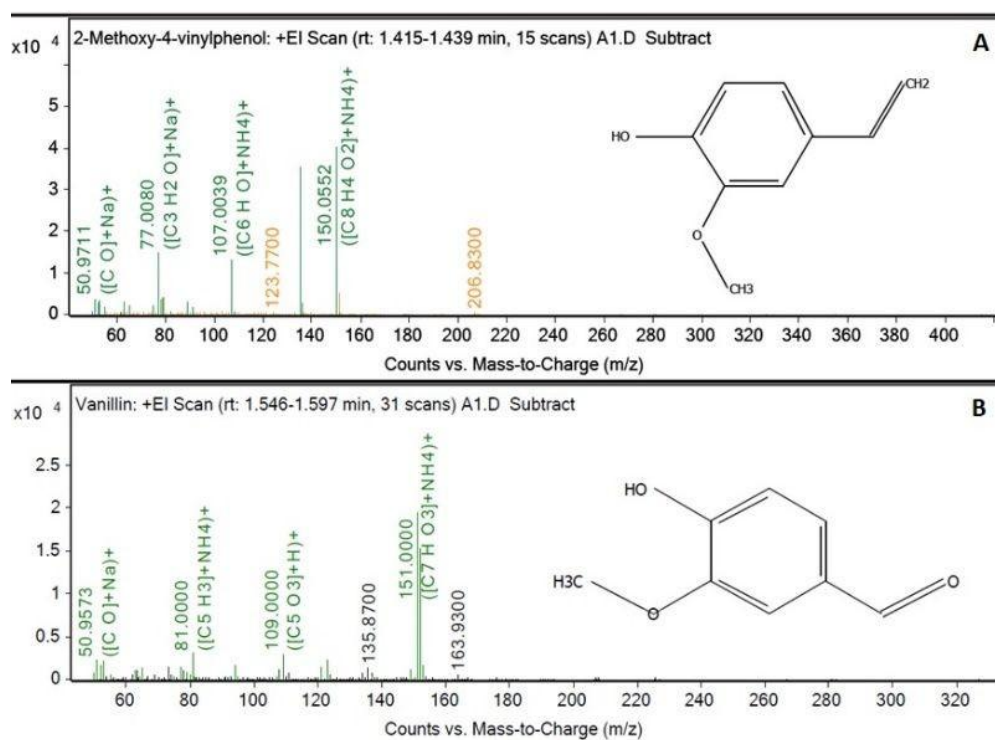
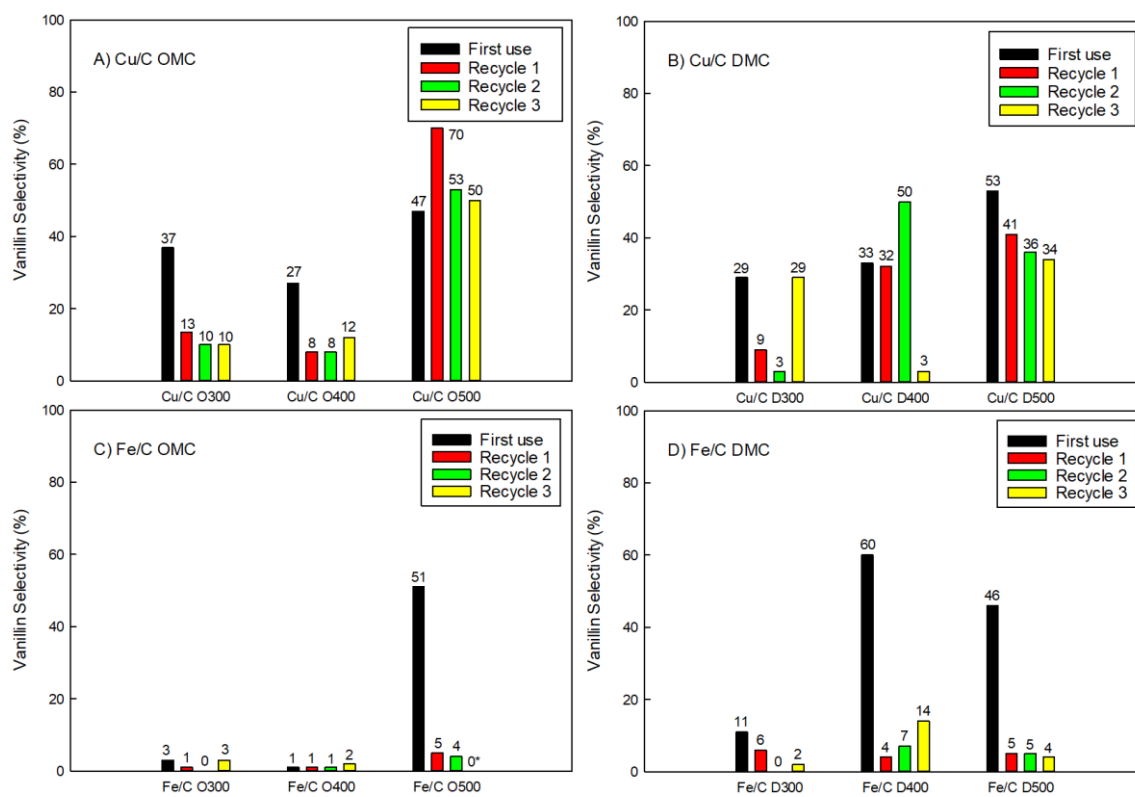


Figure S4. Products confirmation (GC-MS) in the reaction mixture. A: 2-methoxy-4-vinylphenol; B: Vanillin.

#### 4. Catalytic activity



\*Real value < 1 %.

Figure S5. Reusability study after 6 hour-reaction time of synthesized materials.

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