

Supplementary Information

Ruthenium on carbonaceous materials for the selective hydrogenation of HMF

Stefano Cattaneo ¹, Hadi Naslhajian ², Ferenc Somodi ³, Claudio Evangelisti ⁴, Alberto Villa ¹ and Laura Prati ^{1,*}

¹ Dipartimento di Chimica, Università degli Studi di Milano, via Golgi 19, I-20133 Milano, Italy;

² School of Chemistry, Collage of Science, University of Tehran, P.O. Box 14155-6619, Tehran, Iran;

³ Centre for Energy Research, Hungarian Academy of Science, Department of Surface Chemistry and Catalysis, Konkoly-Thege M. street 29-33, 1121 Budapest, Hungary;

⁴ National Council of the Research, CNR-ISTM, Via G. Fantoli 16/15, 20138 Milan, Italy;

* Correspondence: laura.prati@unimi.it; Tel.: ++39-0250-314-357

Figure S1. (a) STEM micrograph of the Ru/CNFs-PS catalyst with relative (b) particle size distribution. (c) HRTEM micrograph of the Ru/CNFs-HHT catalyst with relative (d) particle size distribution. (e) Particle size distribution of the Ru/AC catalyst.

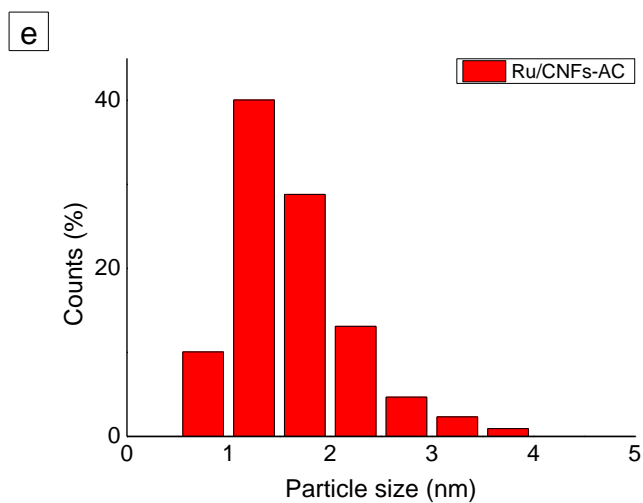
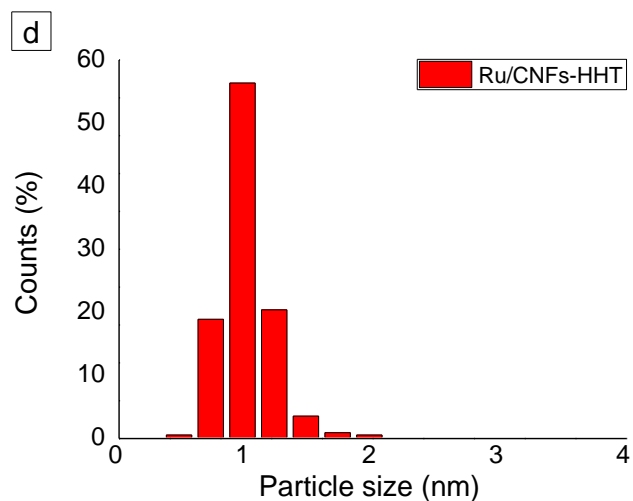
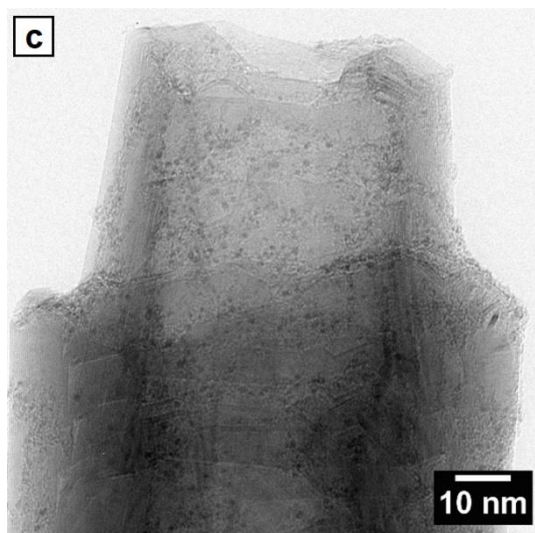
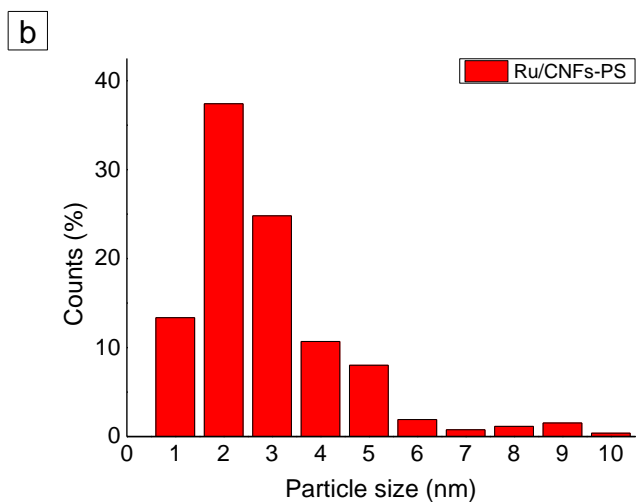
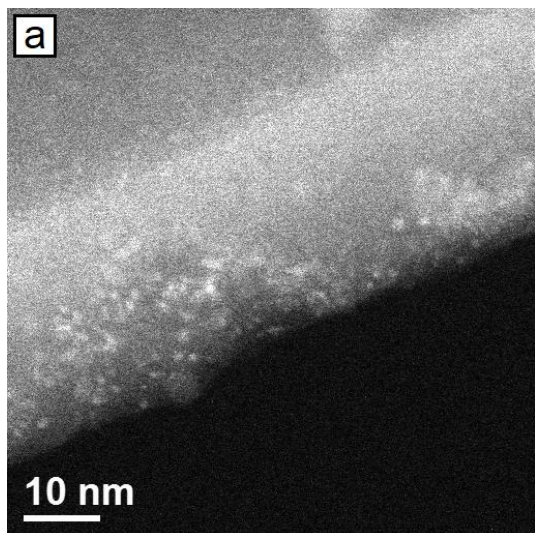
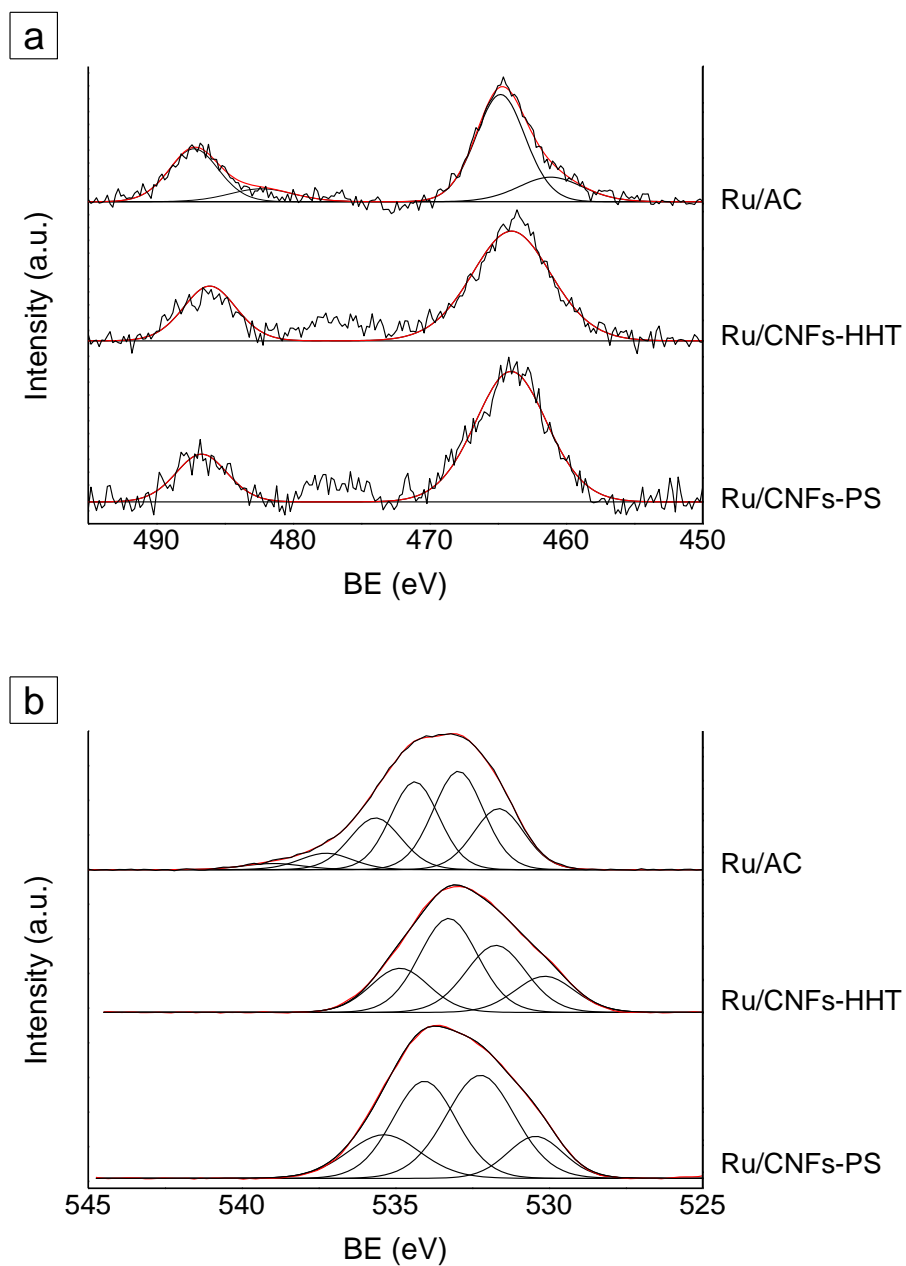


Figure S2. XPS analysis of the three fresh catalysts used in the HMF hydrogenation reaction. (a) Ru 3p^{3/2}, (b) O 1s and (c) C 1s.



C

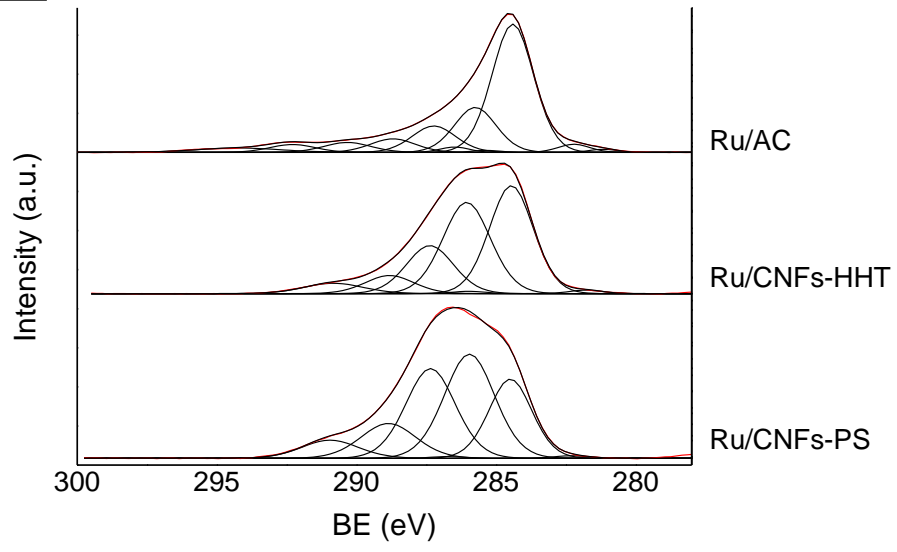


Figure S3. Products of etherification of dihydroxymethylfuran and furfuryl alcohol with the solvent 2-butanol.

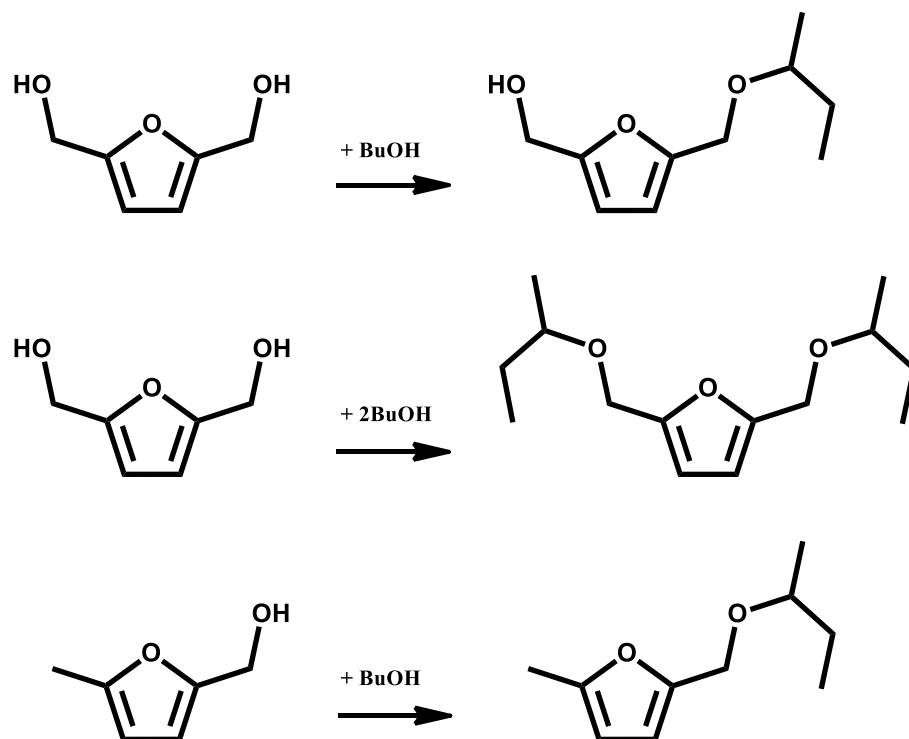


Figure S4. GC-MS analysis of the AMF detected in the reaction mixture.

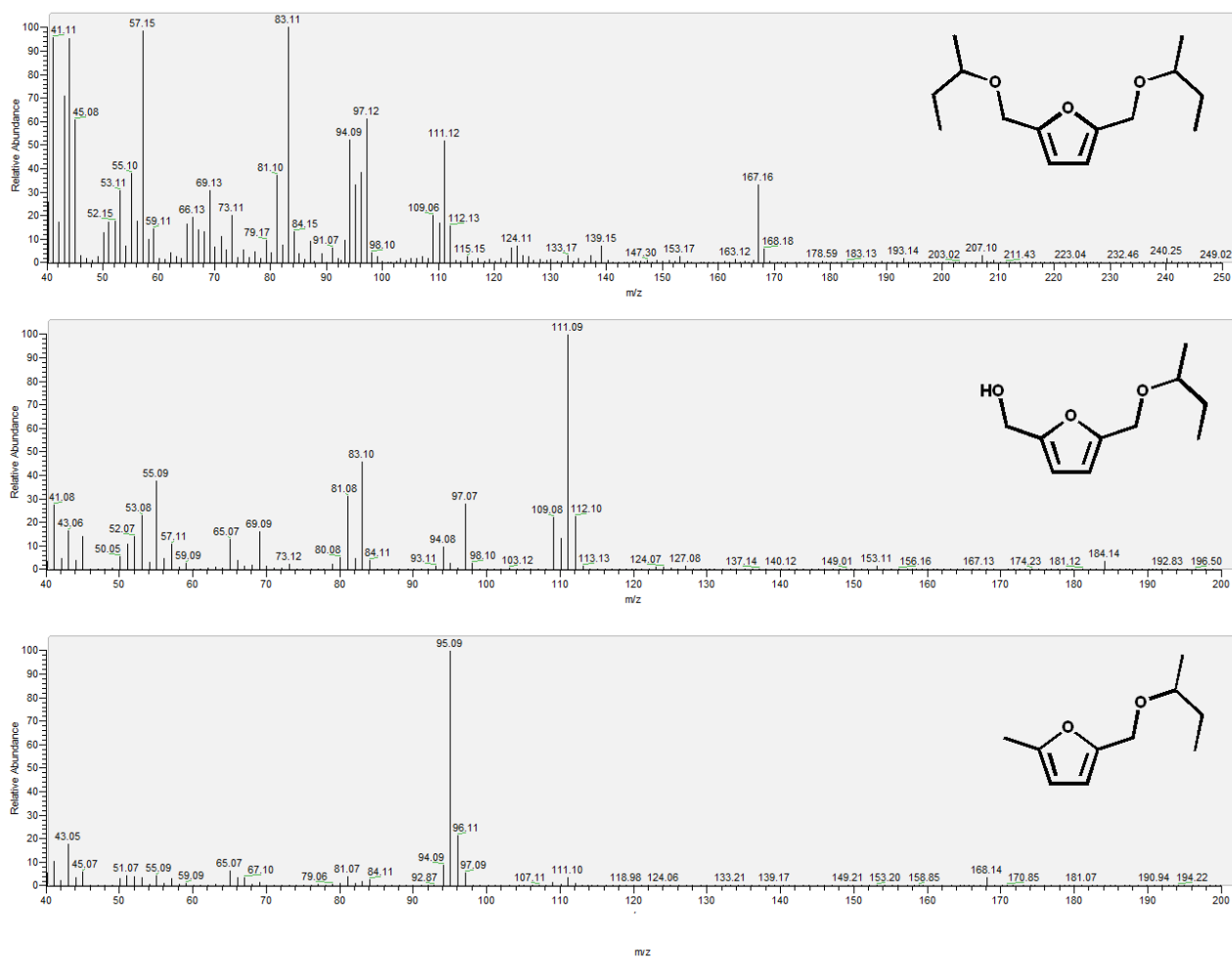
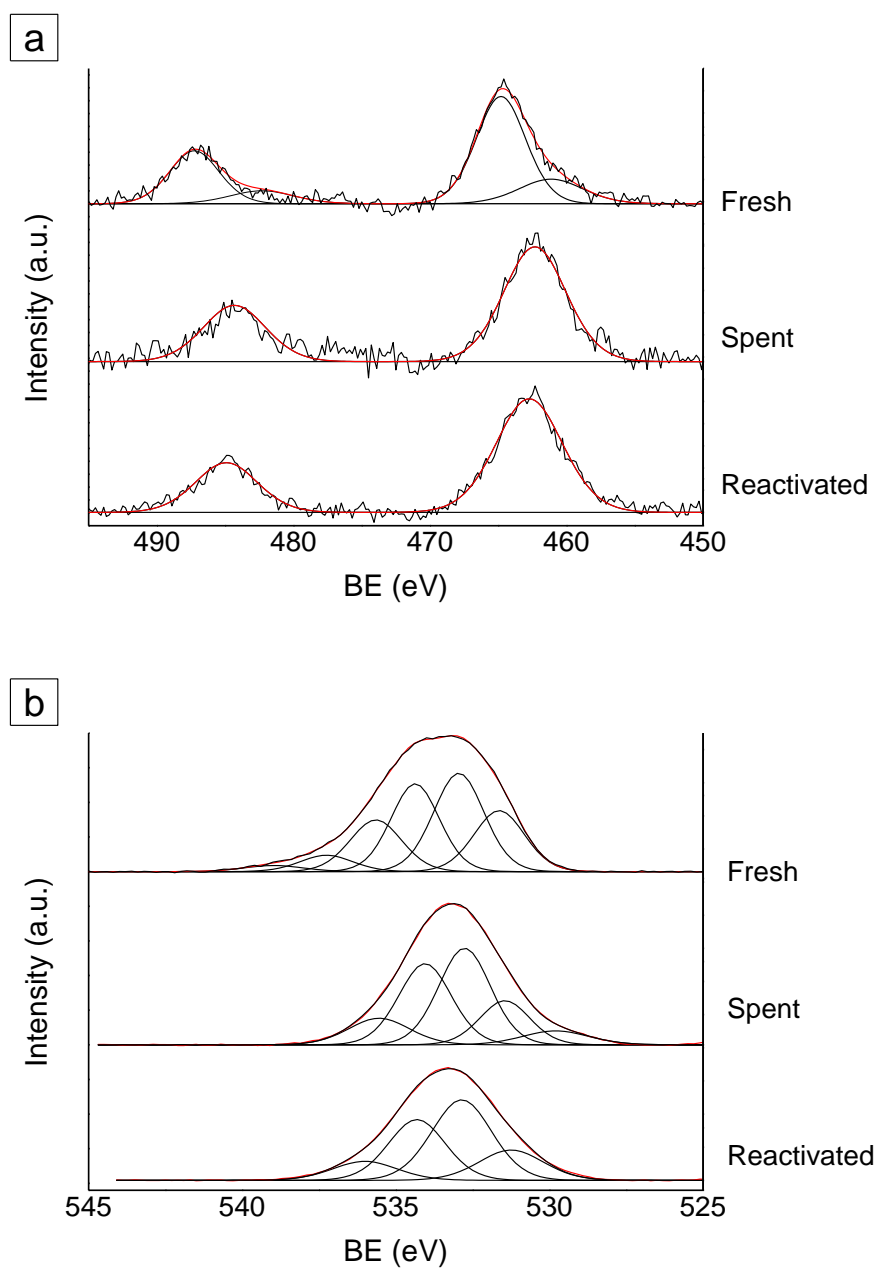


Figure S5. XPS analysis of the Ru/AC before reaction, after reaction and after reactivation. (a) Ru 3p^{3/2}, (b) O 1s and (c) C 1s.



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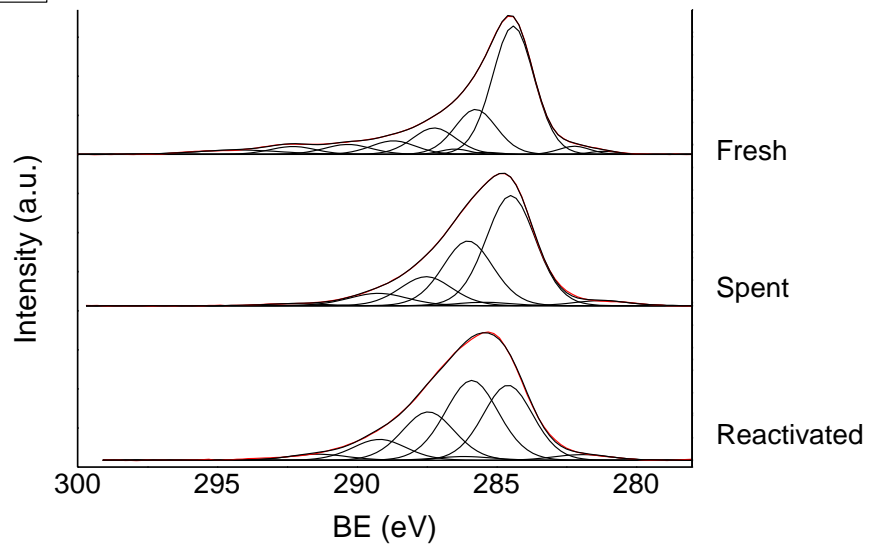


Figure S6. HRTEM micrograph of the spent Ru/AC catalyst with relative particle size distribution.

