

Solvent-Free Deoxygenation of Oleic Acid Using Nickel-Based Catalysts: The Effect of Rice Husk-Derived Bio-Supports

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Supporting materials

Methods

Ni impregnation and reduction



Figure S 1: Work flow of Ni impregnation followed by reduction.

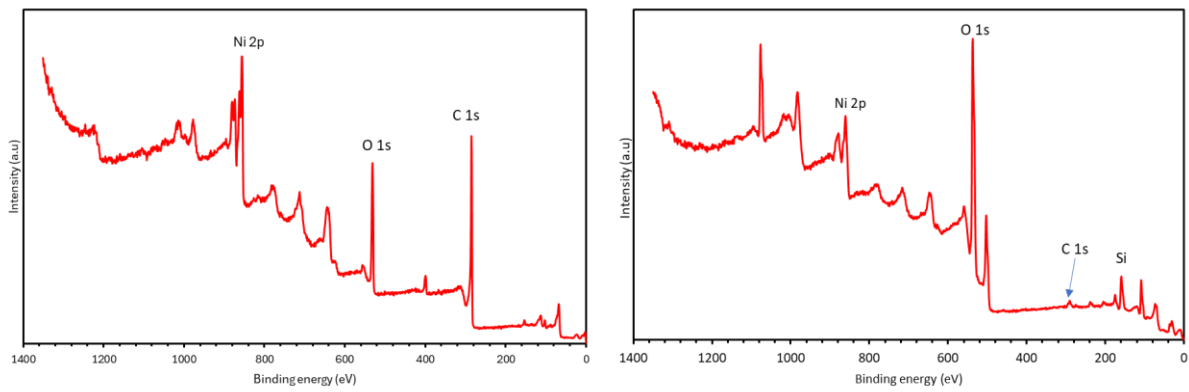


Figure S 2: XPS survey spectra of a) Ni/C and b) Ni/SiO₂

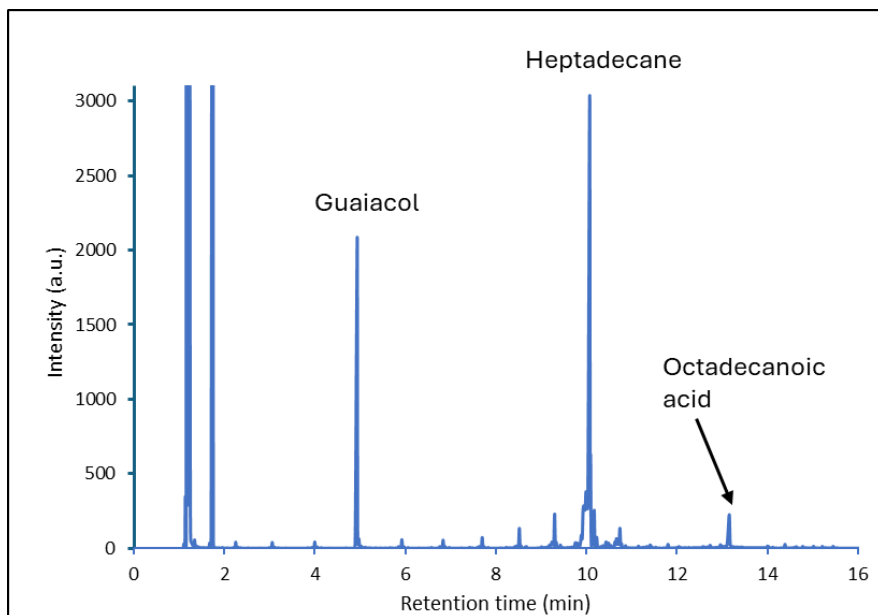


Figure S3. GC-FID spectrum of products from the deoxygenation of oleic acid over Ni/RH-C. Heptadecane is the predominant product, indicating successful deCO_x reactions. The reaction was performed in a Parr batch reactor under 30 bar of H₂, using 15 g of oleic acid and 0.75 g of Ni(20%)/RH-C as catalyst, at 340 °C for 6 h, without any solvent.

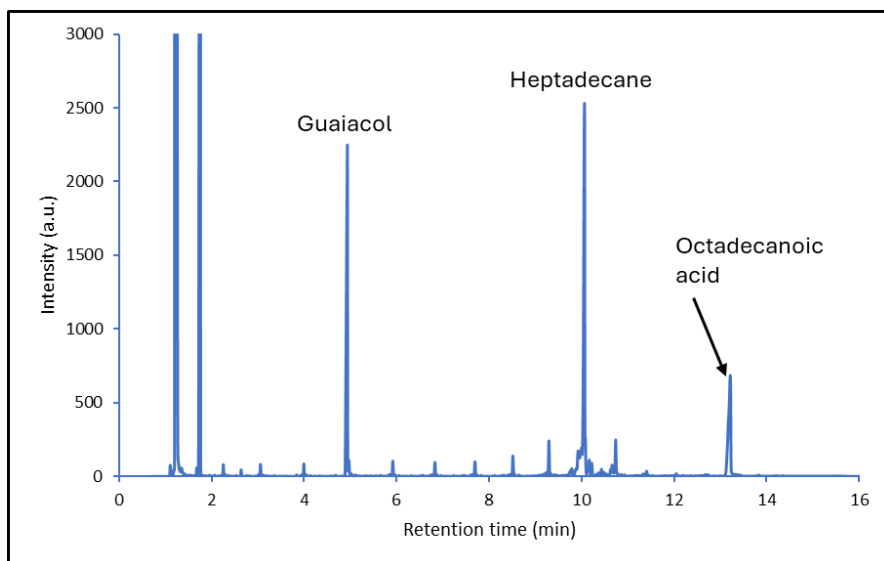


Figure S 4: GC-FID spectrum of products from the deoxygenation of oleic acid over Ni/RH-AC. Heptadecane is the predominant product, indicating successful deCO_x reactions. The reaction was performed in a Parr batch reactor under 30 bar of H₂, using 15 g of oleic acid and 0.75 g of Ni(20%)/RH-C as catalyst, at 340 °C for 6 h, without any solvent.

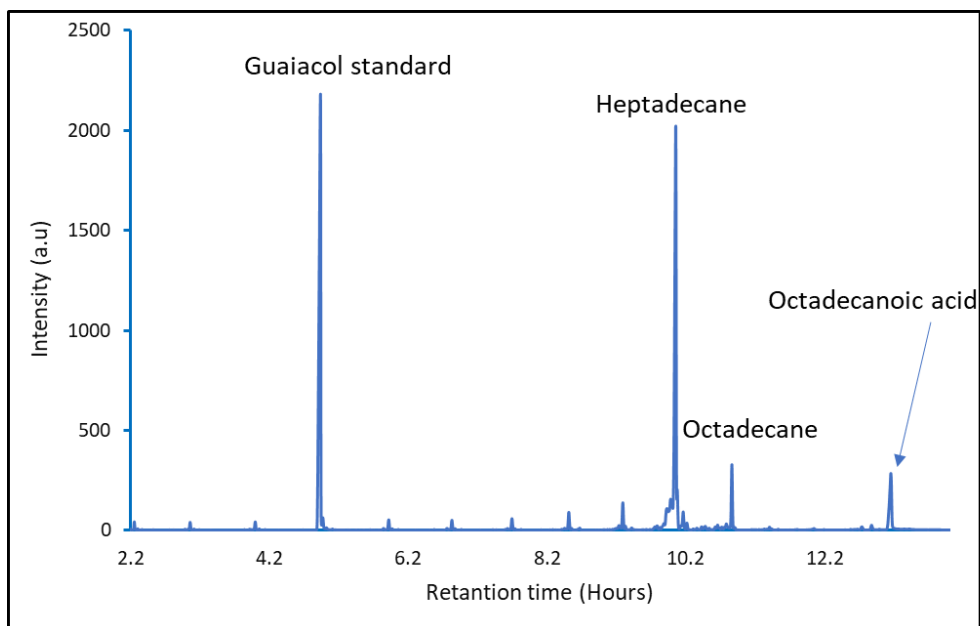


Figure S 5: GC-FID spectrum of products from the deoxygenation of oleic acid over Ni/RH-SiO₂. Octadecane is the predominant product indicating partial shift from deCO_x reactions to HDO. The reaction was performed in a Parr batch reactor under 30 bar of H₂, using 15 g of oleic acid and 0.75 g of Ni(20%)/RH-C as catalyst, at 340 °C for 6 h, without any solvent.