SUPPLEMENTARY INFORMATION

Synthesis and characterization of supported Pd complex on carbon nanofibers for the selective decarbonylation of stearic acid to 1-heptadecene: the importance of subnanometric Pd dispersion.

Elba Ochoa [a,†], Wilson Henao [a,†], Sara Fuertes [b], Daniel Torres [a], Tomas van Haasterecht [c], Elinor Scott [c], Harry Bitter [c], Isabel Suelves [a], Jose Luis Pinilla [*a]

[a] Instituto de Carboquímica, CSIC, Miguel Luesma Castán 4, 50018 Zaragoza, Spain

[b] Departamento de Química Inorgánica, Facultad de Ciencias, Instituto de Síntesis Química y Catálisis Homogénea (ISQCH), CSIC - Universidad de Zaragoza, Pedro Cerbuna 12, Zaragoza, 50009, Spain

[c] Biobased Chemistry and Technology, Wageningen University, P.O. Box 17, Wageningen, 6700 AA, Netherlands

(*) corresponding author: jlpinilla@icb.csic.es

(†) These authors contributed equally to this work

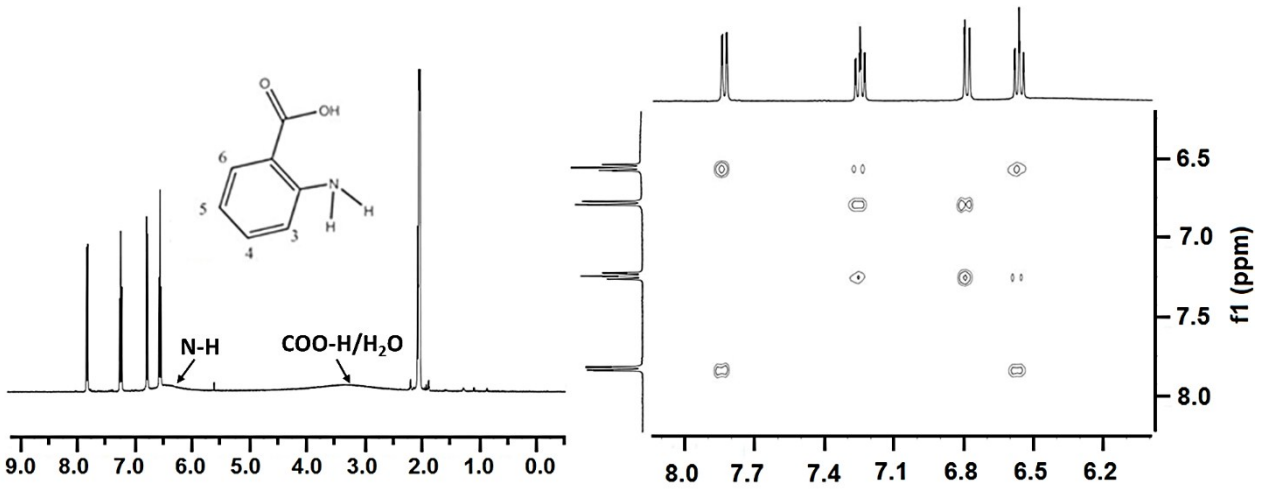

Figure S1. ^{1}H NMR *(left)* and ^{1}H-^{1}H COSY *(right)* spectra of anthranilic acid in acetone-d_6. *Inset: scheme of the chemical structure of anthranilic acid.* ^{1}H NMR (400 MHz, acetone-d_6): δ= 7.83 (1H, dd, $^{3}J_{H3\text{-}H4}$ = 8.1, $^{4}J_{H3\text{-}H5}$ = 1.6, H3), 7.25 (1H, ddd, $^{3}J_{H5\text{-}H6}$ = 8.4, $^{3}J_{H5\text{-}H4}$ = 7.1, $^{4}J_{H5\text{-}H3}$ = 1.6, H5), 6.79 (1H, dd, $^{3}J_{H6\text{-}H5}$ = 8.4, $^{4}J_{H6\text{-}H4}$ = 1.1, H6), 6.56 (1H, ddd, $^{3}J_{H4\text{-}H3}$ = 8.1, $^{3}J_{H4\text{-}H5}$ = 7.1, $^{4}J_{H4\text{-}H6}$ = 1.1, H4), 6.41 (s, br, NH_2), 3.30 (s, br, COOH).

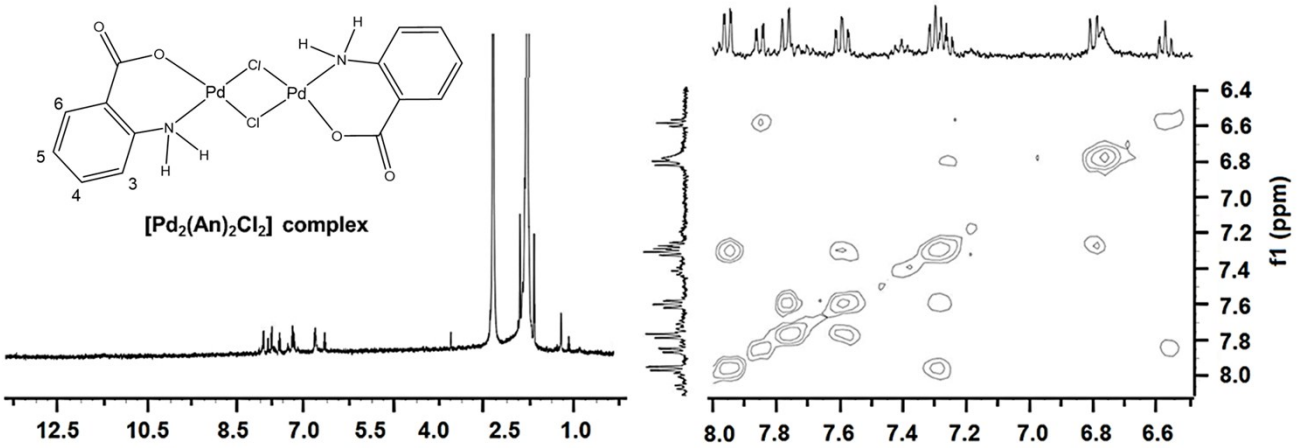

Figure S2. ^{1}H NMR *(left)* and ^{1}H-^{1}H COSY *(right)* spectra of $[Pd_2(An)_2Cl_2]$ complex in acetone-d_6. *Inset: scheme of the proposed chemical structure of* $[Pd_2(An)_2Cl_2]$ *complex*. ^{1}H NMR (400 MHz, acetone-d_6): δ= 7.93 (1H, dd, $^{3}J_{H3\text{-}H4}$ = 7.4, $^{4}J_{H3\text{-}H5}$ = 1.4, H3), 7.75 (1H, d, $^{3}J_{H6\text{-}H5}$ = 8.4, H6), 7.57 (1H, td, $^{3}J_{H5\text{-}H6}$ = $^{3}J_{H5\text{-}H4}$ = 7.5, $^{4}J_{H5\text{-}H3}$ = 1.5, H5), 7.28 (1H, t, $^{3}J_{H4\text{-}H3}$ = $^{3}J_{H4\text{-}H5}$ = 7.4, H4), 6.76 (s, br, NH_2).

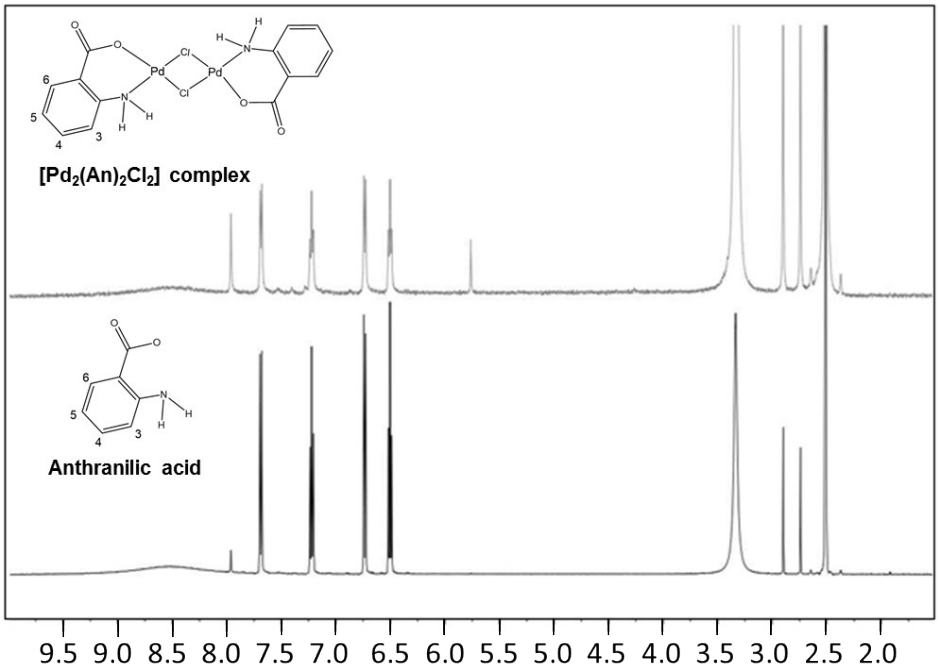

Figure S3. ^{1}H NMR spectra of $[Pd_2(An)_2Cl_2]$ (top) and anthranilic acid (bottom) in DMSO-d_6.

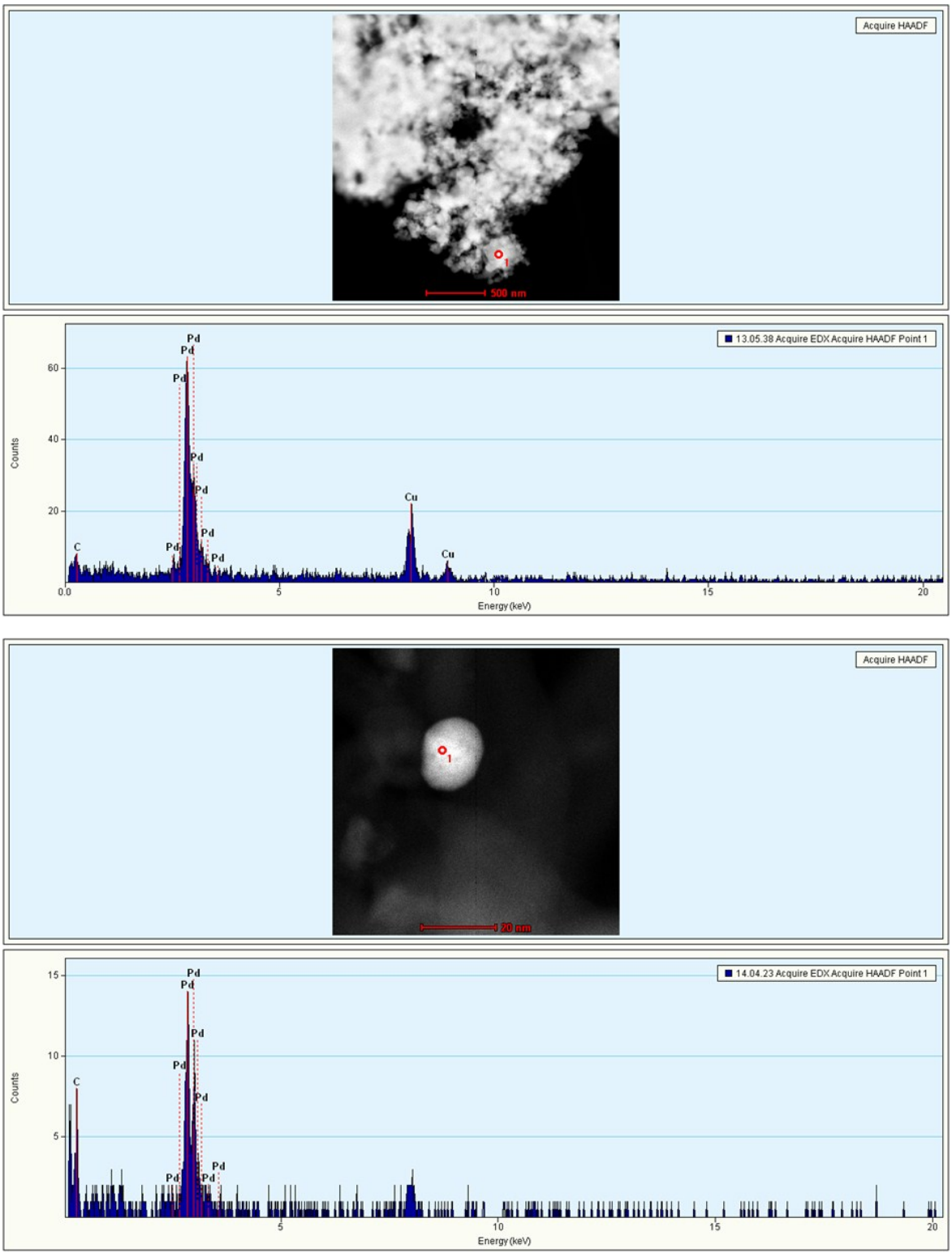

Figure S4. Energy-dispersive X-ray spectra of AnPd/CNF (EtOH)

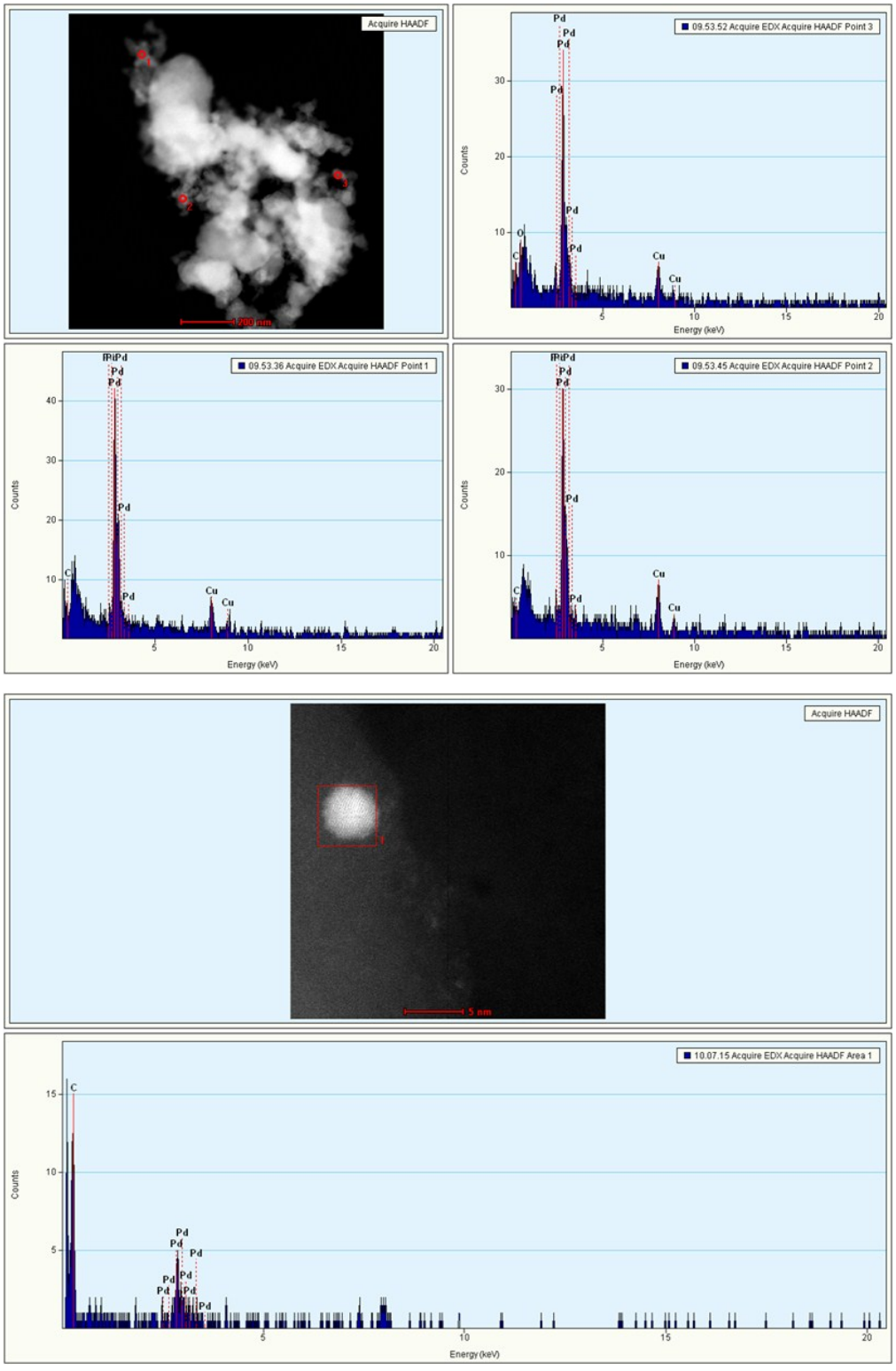

Figure S5. Energy-dispersive X-ray spectra of AnPd/CNF (DMF).

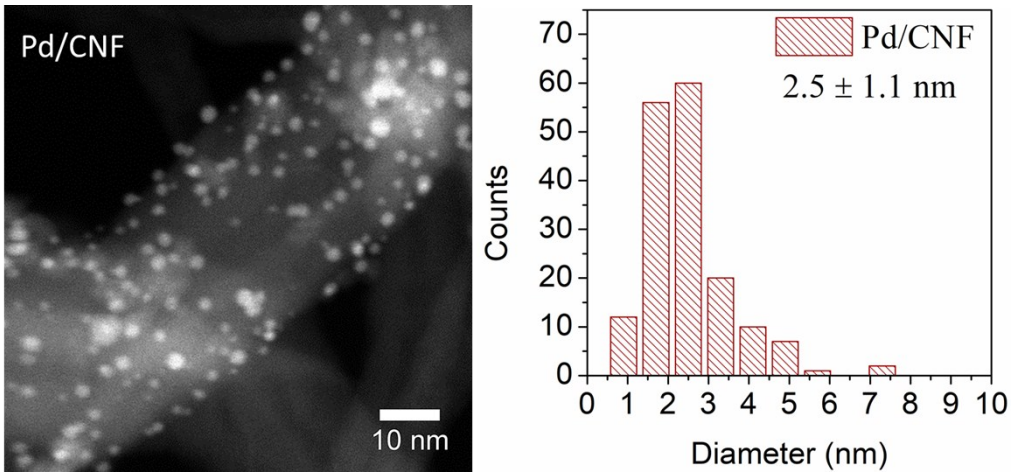

Figure S6. STEM-HAAD micrograph and metal particle size distribution of a 0.6 wt.%Pd/CNF heterogeneous catalyst prepared by incipient wetness impregnation and further reduction with H_2.