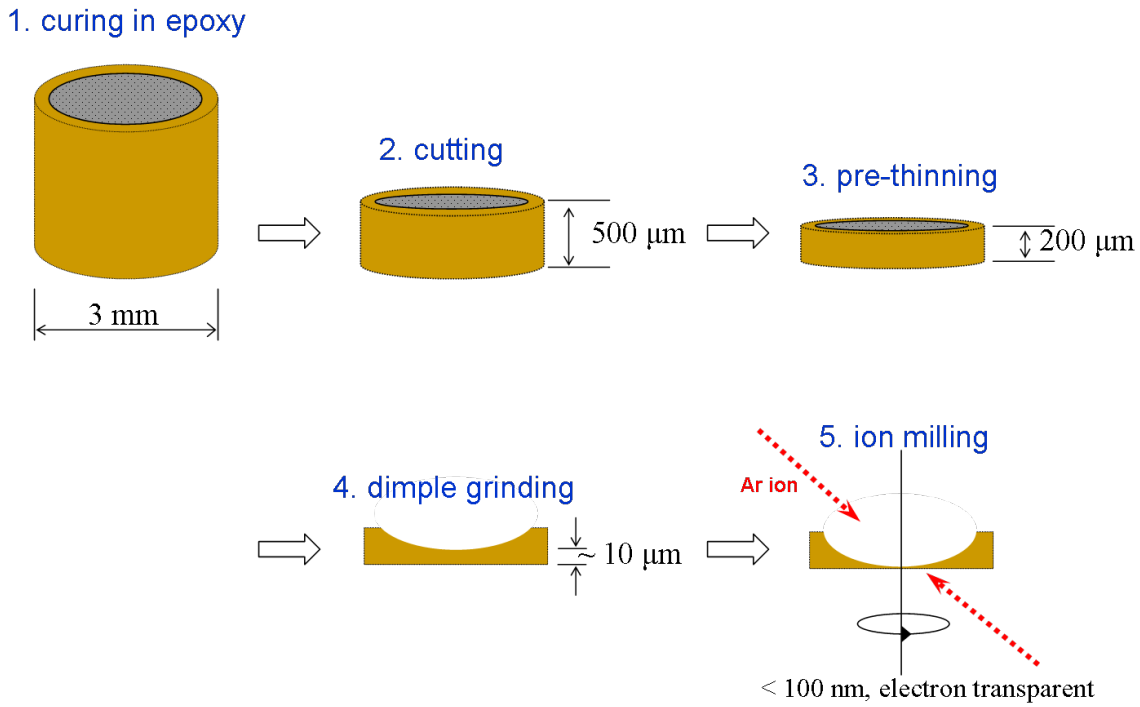
Electronic Supplementary Material (ESI) for Dalton Transactions

Hydrogenation of arenes and N-heteroaromatic compounds over ruthenium nanoparticles on poly(4-vinylpyridine): a versatile catalyst operating by a substrate-dependent dual site mechanism

Minfeng Fang, Nataliya Machalaba and Roberto A. Sánchez-Delgado*

Chemistry Department, Brooklyn College and The Graduate Center, The City University of New York (CUNY), 2900 Bedford Avenue, Brooklyn NY 11210, United States



Scheme S1 TEM sample preparation for the Ru/PVPy catalyst.

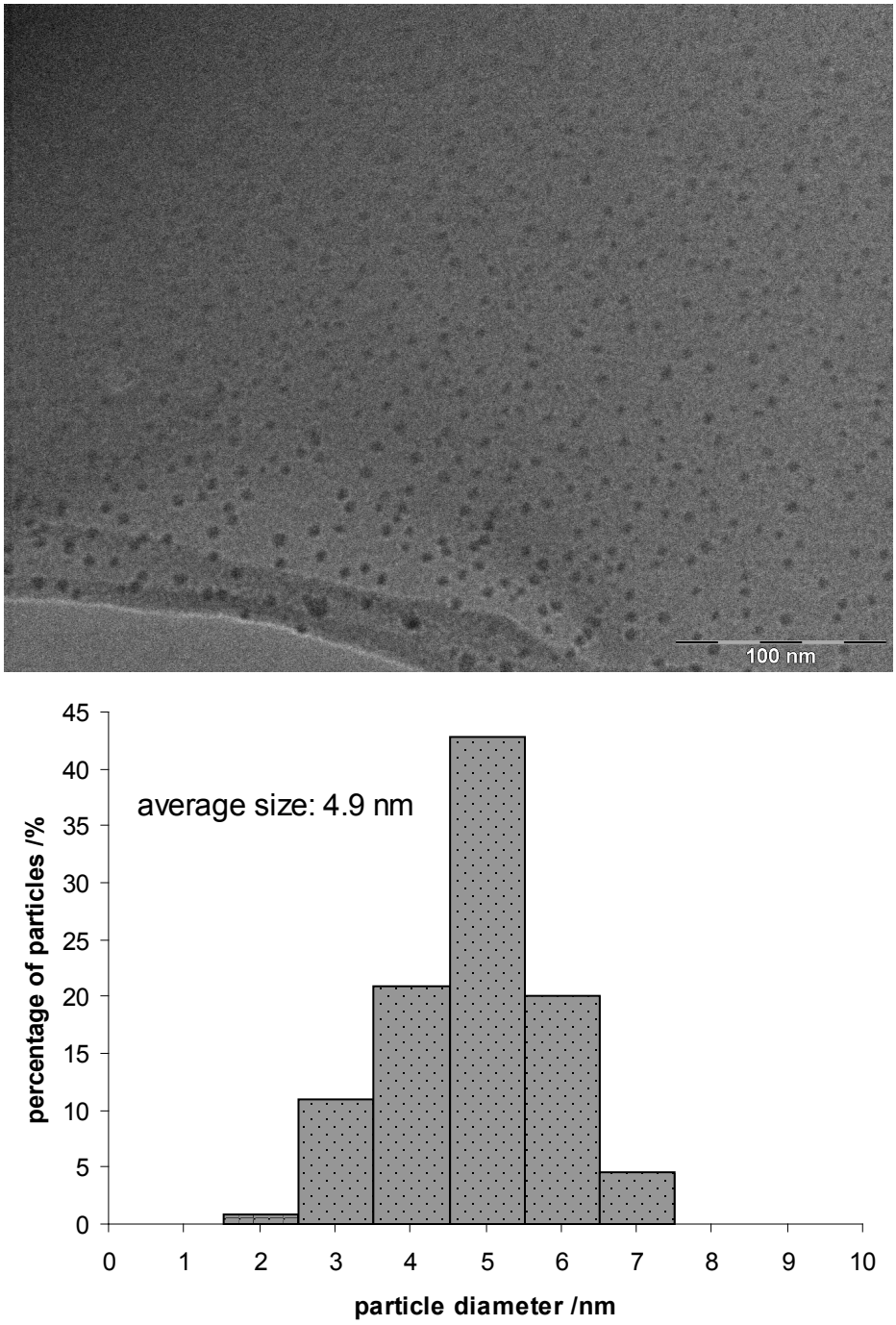


Fig. S1 Transmission electron micrographs of a used sample of Ru/PVPy with the corresponding size distribution histogram for Ru nanoparticles.

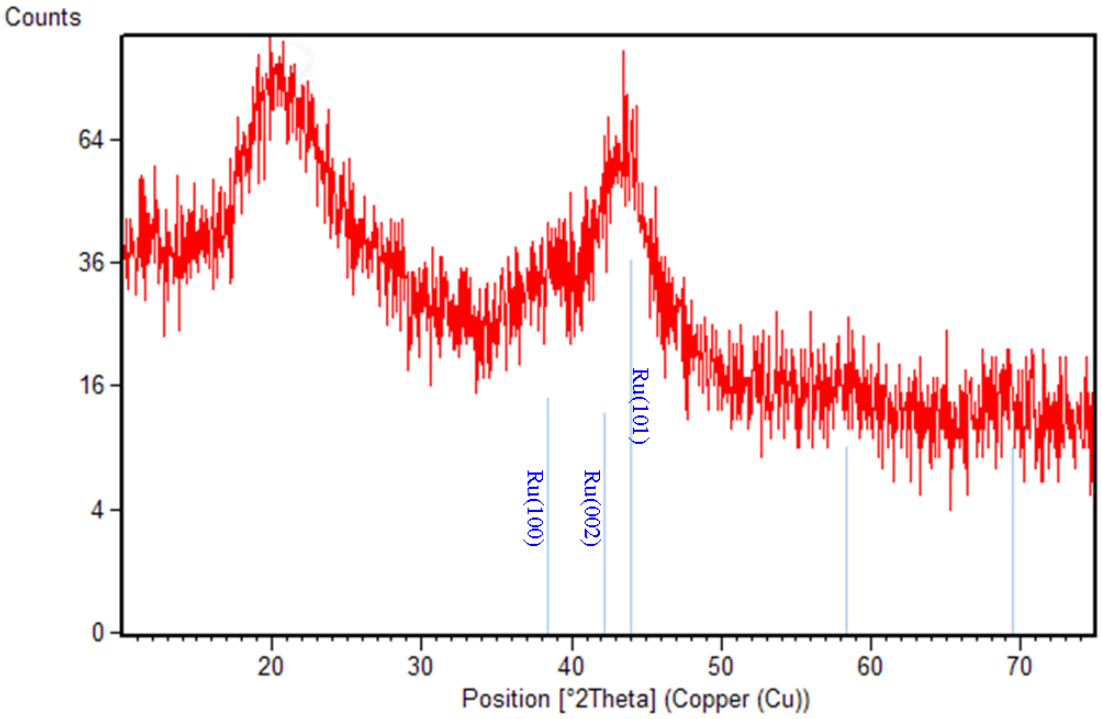


Fig. S2 Powder XRD diffraction pattern of a used sample of Ru/PVPy after a hydrogenation run (substrate: quinoline, 150 ºC and 50 bar, in THF).

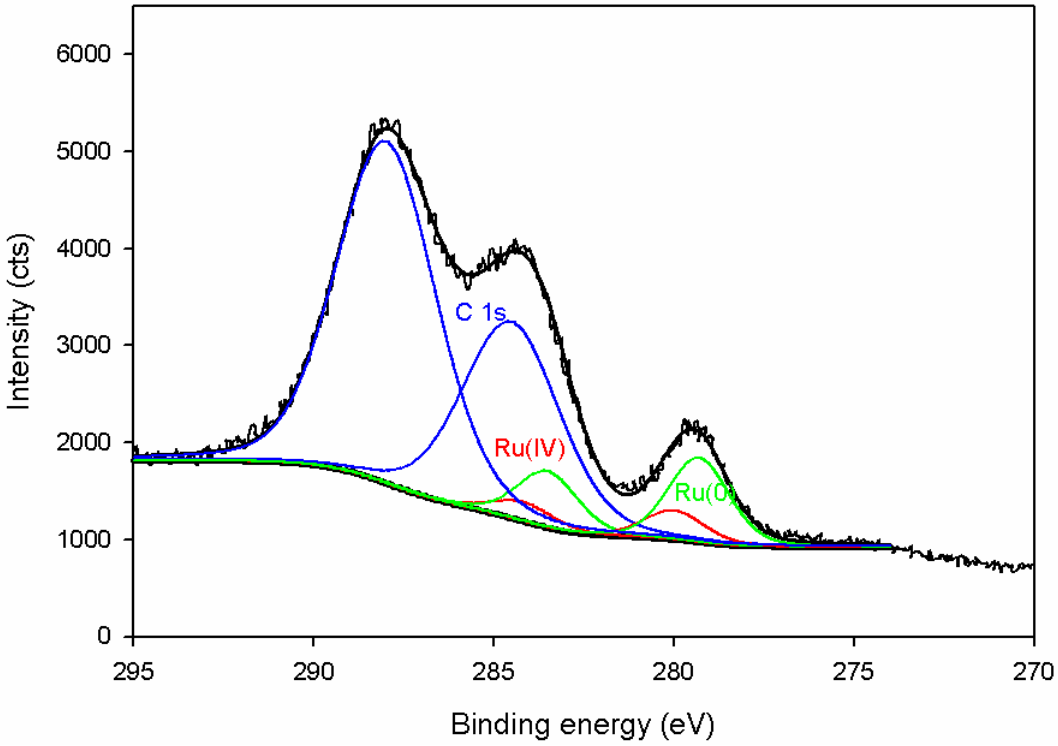


Fig. S3 C 1s and Ru 3d XPS spectra of a used sample of Ru/PVPy after a hydrogenation run (substrate: quinoline, 150 ºC and 50 bar, in THF).

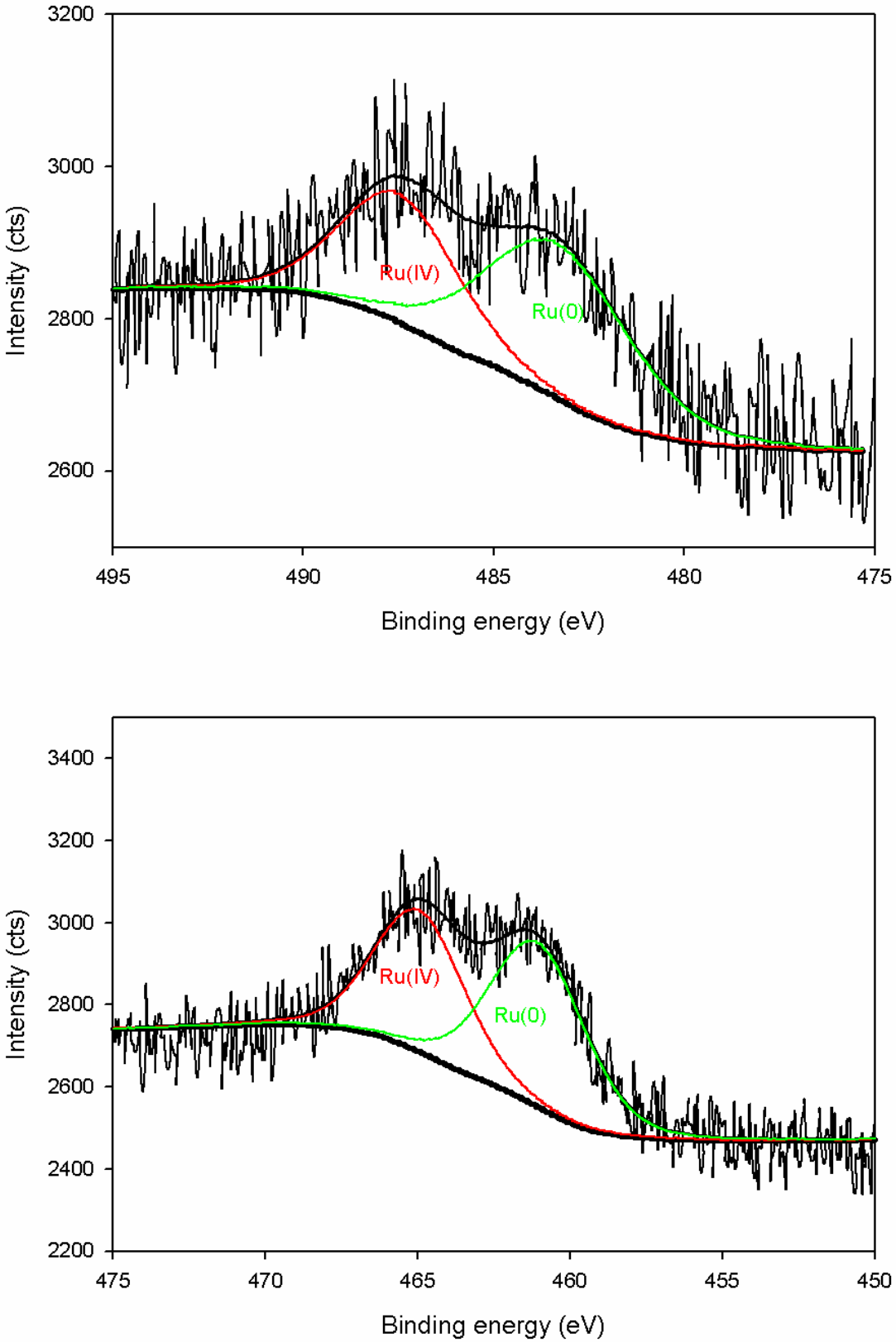


Fig. S4 Ru 3p XPS spectra of a used sample of Ru/PVPy after a hydrogenation run (substrate: quinoline, 150 ºC and 50 bar, in THF): (a)$3p_{1/2}$; (b)$3p_{3/2}$.