

Segregation at small scale: Synthesis of core-shell bimetallic RuPt nanoparticles, characterization and solid state NMR studies

Patricia Lara,^{a,b} Marie-José Casanove,^{c,d} Pierre Lecante^{c,d}, Pier-Francesco Fazzini,^e Karine Philippot,^{a,b*} Bruno Chaudret^{e*}

^a CNRS ; LCC (*Laboratoire de Chimie de Coordination*) ; 205, Route de Narbonne, F-31077 Toulouse, France

^b Université de Toulouse; UPS, INPT; LCC; F-31077 Toulouse, France

^c CNRS ; CEMES (*Centre d'Elaboration de Matériaux et d'Etudes Structurales*) ; BP 94347, 29 rue Jeanne Marvig, F-31055 Toulouse, France.

^d Université de Toulouse; UPS, F-31055, Toulouse, France

^e LPCNO ; Laboratoire de Physique et Chimie de Nano-Objets ; 135, Avenue de Rangueil, F-31077 Toulouse, France.

TEM image

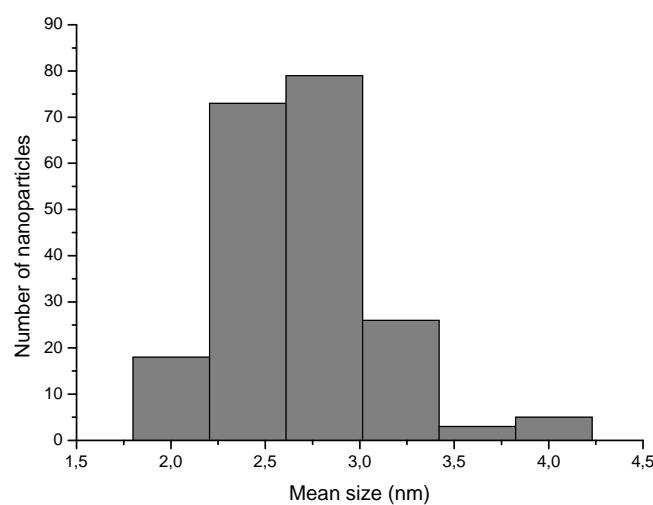
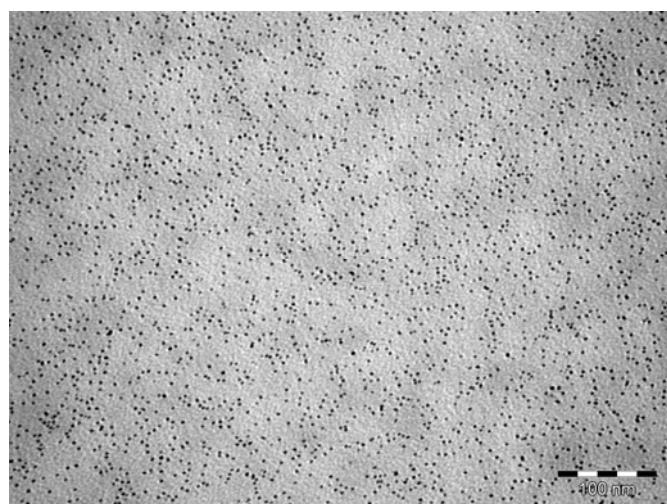


Figure S1. TEM image (top) with corresponding size histogram (bottom) of **Colloid 2**.

IR spectra

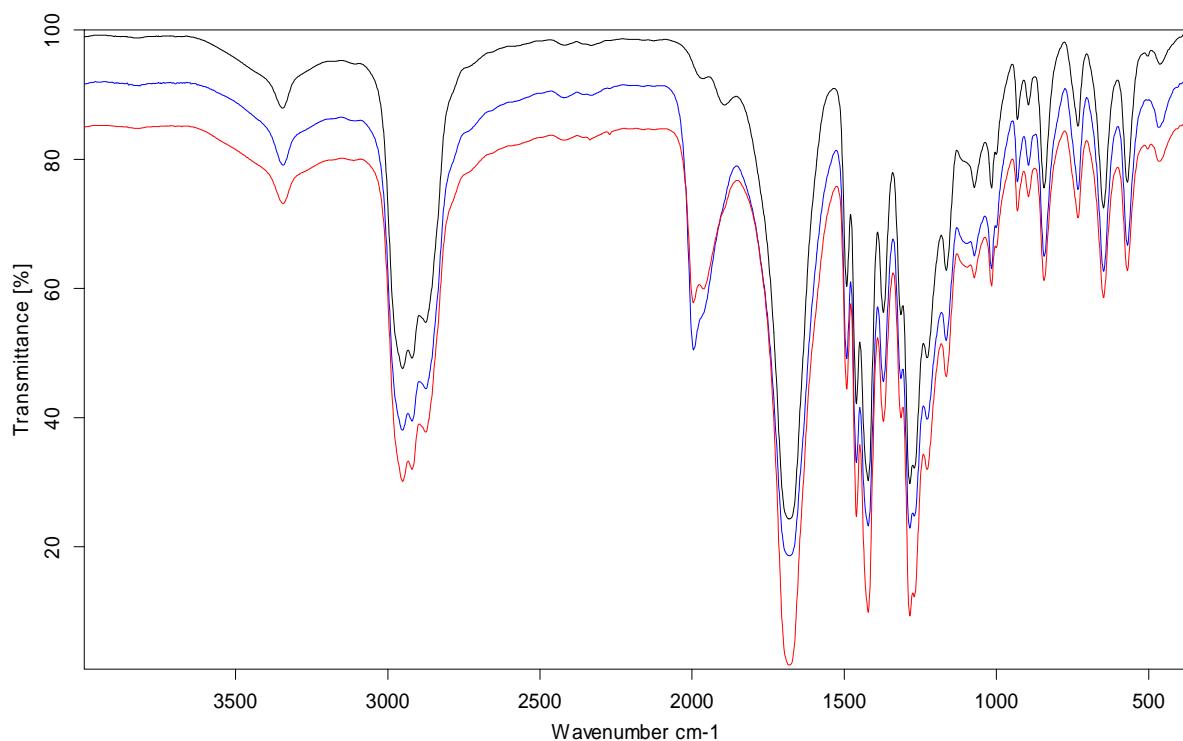


Figure S2. IR spectrum of **Colloid 1** (black), **Colloid 1** after 5 h of reaction at RT with 0.5 bar of ^{13}CO (blue) and after 12 h of reaction under 0.5 bar of ^{13}CO (red).

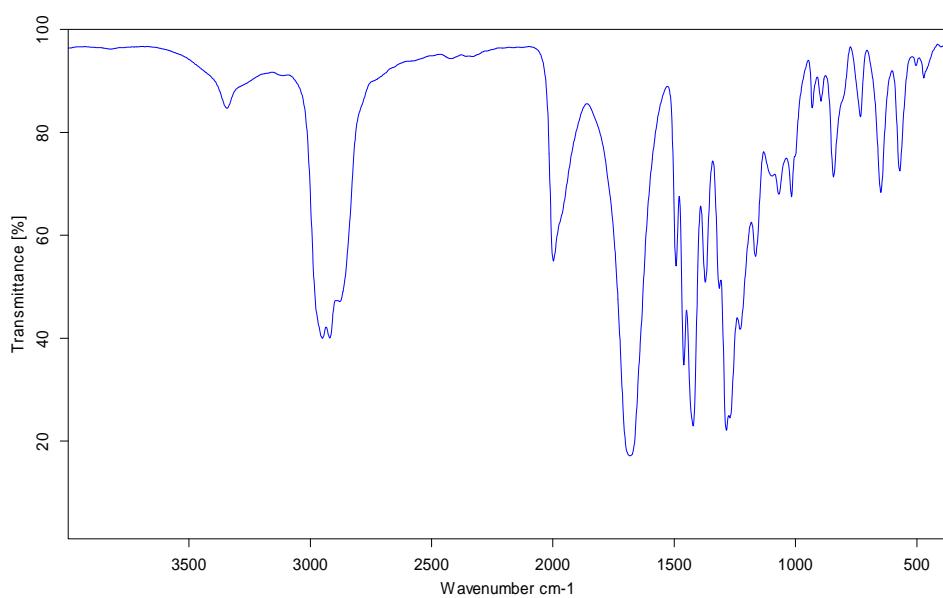


Figure S3. IR spectrum corresponding to **Colloid 2** after 18 h of reaction with 1 bar of ^{13}CO at RT.

Solid state NMR spectra

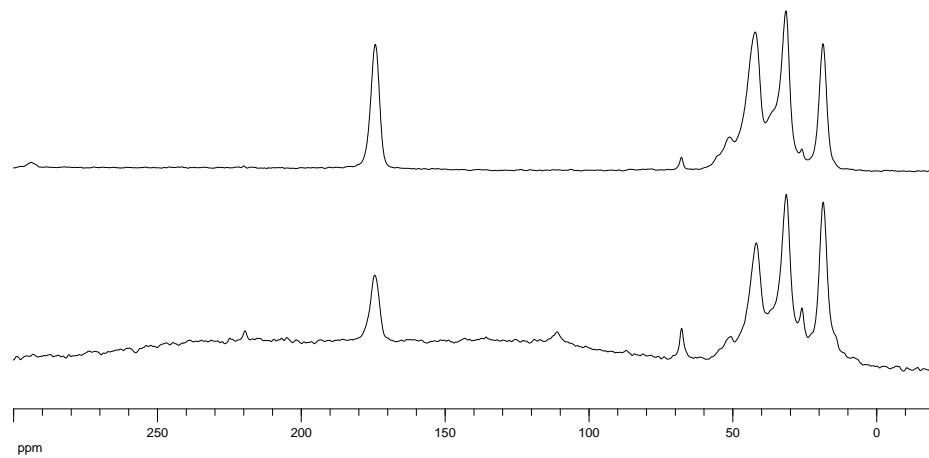


Figure S4. ^{13}C MAS (bottom) and ^{13}C CPMAS (top) NMR spectra of **Colloid 1**.

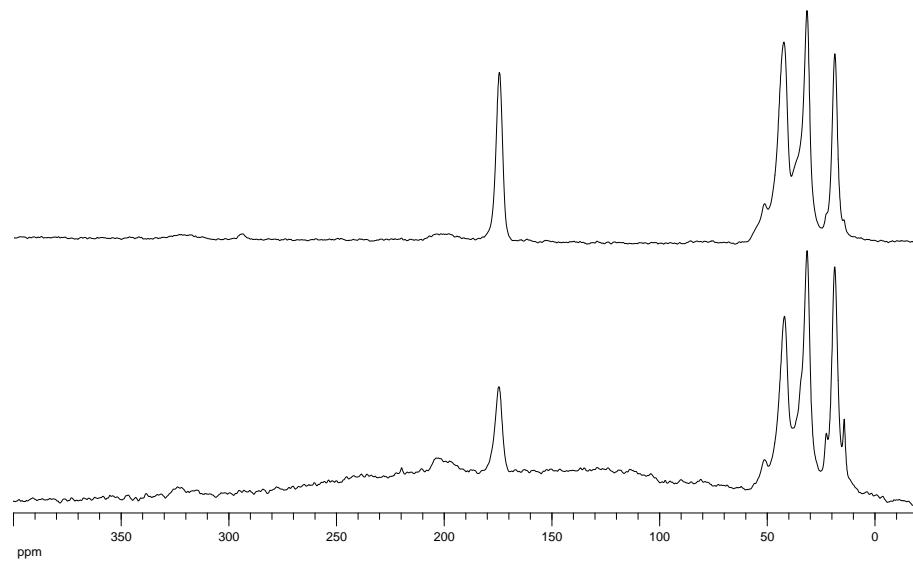


Figure S5. ^{13}C MAS (bottom) and ^{13}C CP MAS (top) NMR spectra of **Colloid 1** after 12 h of reaction with 0.5 bar of ^{13}CO at RT.