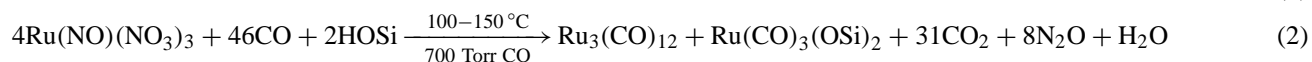
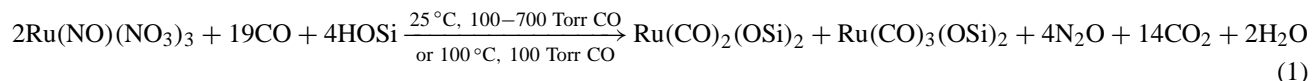


Erratum

IR spectroscopic study on surface-mediated reductive carbonylation of hydrated SiO₂-supported Ru(NO₃)₃, L. Huang and Y. Xu, Catal. Lett. 71 (2001) 27.

Ru(NO₃)₃ should be replaced by Ru(NO)(NO₃)₃ throughout the paper. The figures 1–3 in the paper should be substituted by the following figures 1–3.

The equations in the paper should be replaced by the following ones:



In the Results and discussion section, the first two paragraphs should be written as follows:

Figures 1 and 2 show the surface IR spectra taken during the carbonylation of hydrated Ru(NO)(NO₃)₃/SiO₂ under 100 Torr of CO. Figure 1(a) represents N–O stretching vibrational bands of Ru(NO)(NO₃)₃/SiO₂. The bands at 1888 and 1512 cm⁻¹ are attributed to the terminal NO and NO₃⁻, respectively. The following spectra of carbonylated samples are represented by subtracting that of the starting Ru(NO)(NO₃)₃/SiO₂.

As soon as a light brown wafer of hydrated Ru(NO)(NO₃)₃/SiO₂ which had been outgassed under vacuum (10⁻² Torr) at 25 °C for 1 h, was exposed to 100 Torr of CO at 25 °C, a band at 2159 cm⁻¹ appeared together with an inverse band at 1886 cm⁻¹. About 2.5 h later, two other bands at 2085 and 2028 cm⁻¹ were discerned, with the concomitant appearance of the water band at 1629 cm⁻¹ and another inverse band at 1533 cm⁻¹. As seen in figure 1, the bands at 2150, 2085 and 2028 cm⁻¹ developed slowly as the carbonylation proceeded at 25 °C. This set of bands closely resemble those superim-

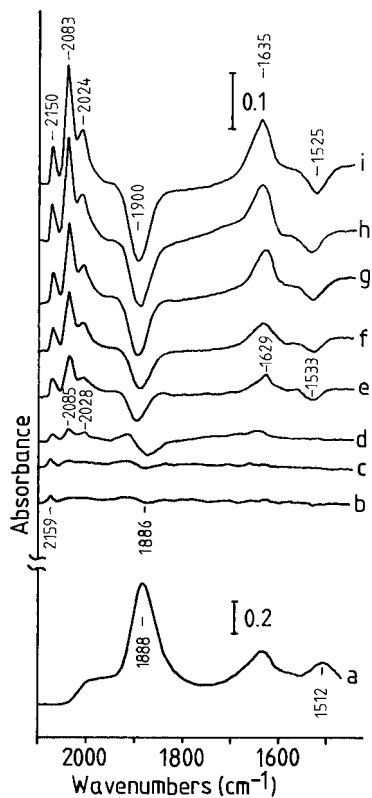


Figure 1.

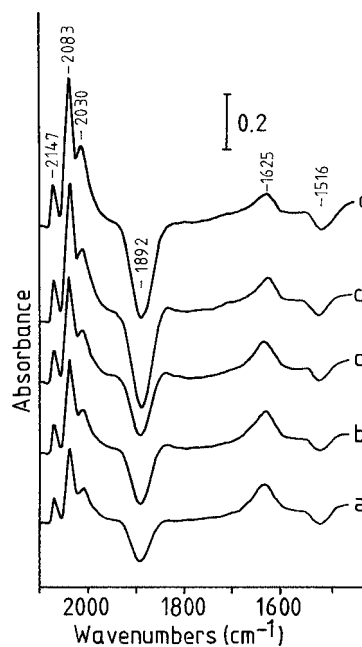


Figure 2.

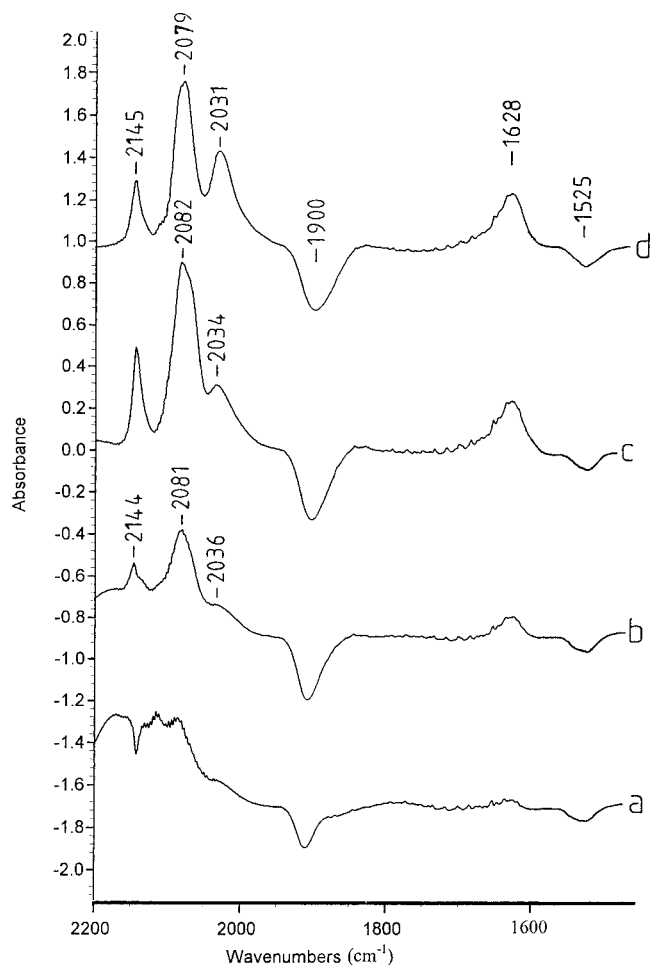


Figure 3.

posed of the carbonyl bands for $\text{Ru}(\text{CO})_2\text{Cl}_2(\text{HOSi})_2$ [8] and $\text{Ru}(\text{CO})_3\text{Cl}_2(\text{HOSi})$ [8,13] and thus are assignable to a surface mixture of ruthenium(II) dicarbonyl and tricarbonyl species on SiO_2 . At the same time, the water band at 1629 cm^{-1} increased in intensity with time while the 1900 and 1525 cm^{-1} bands grew inversely with time, indicative of loss of NO and NO_3^- groups from the surface and concurrent increase of water amount on the surface during carbonylation. Increasing the temperature markedly enhanced the rates of carbonylation and conversion of NO and NO_3^- on SiO_2 , as seen in figure 2. After 28 h of treatment under 100 Torr of CO at $100\text{ }^\circ\text{C}$, the wafer had no apparent color change. But the carbonylation equilibrium of $\text{Ru}(\text{NO})(\text{NO}_3)_3$ was reached because the carbonyl band intensities increased no more. It can be roughly estimated from the inverse NO band intensity at 1892 cm^{-1} (figure 2(d)) that 57% of $\text{Ru}(\text{NO})(\text{NO}_3)_3$ is consumed. Furthermore, no other N–O stretching vibrational bands were present in the surface spectra.