

# Characterization of char derived from resorcinol-formaldehyde resin modified with metal oxide/silica nanocomposites

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It was noted, that in the case of degradation under nitrogen for the Ni samples, the peaks corresponding to CO<sub>2</sub> is broad and present two maxima at 350 and 550C.

The stretch vibration bands detected at 1150-1085 cm<sup>-1</sup> in RF-SiO<sub>2</sub> correspond to the C-O stretching in the aliphatic ether.

The absorbance of -OH stretching at 4000-3500 cm<sup>-1</sup> is associated with H<sub>2</sub>O and the phenolic hydroxyl group.

The stretch vibration bands detected at 3000-2500 cm<sup>-1</sup> correspond to the C-H group in the aldehyde or ketone compounds.

The absorbance of -OH stretching at 4000-3500 cm<sup>-1</sup> is associated with H<sub>2</sub>O and the phenolic hydroxyl group.

**Table S1.** Summarized results of the FTIR analysis for the most important peaks in Figure S1.

Functional group	Wave number, cm <sup>-1</sup>
CO <sub>2</sub>	600-750, 2400-2240, 3900-3500
CO	1950-2150

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H <sub>2</sub> O	1300–2000, 3400–4000
C–H	3000–2830
C=O	1850–1600
C=C	1600–1420

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