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## Combining photocrystallography and infrared spectroscopy for the study of nitric oxide and nitrite linkage isomers

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In the last few years we have studied a number of complexes containing the photoswitchable ligands NO and NO<sub>2</sub> [1-4]. On the examples of [RuX(NO)<sub>2</sub>(PR<sub>3</sub>)<sub>2</sub>]BF<sub>4</sub> (PR<sub>3</sub> = PPh<sub>3</sub>, PCyp<sub>3</sub>, Pcy<sub>3</sub>; X=Cl, Br, I) and [Rh(NO)(NO<sub>2</sub>)<sub>2</sub>(But

2PH)<sub>2</sub>] we will demonstrate how the combination of photocrystallography and infrared spectroscopy allows for structural characterization of the photoinduced linkage isomers (PLI) as well as deducing a general scheme for their generation. Furthermore, we will discuss the possibility of selectively addressing one or the other ligand for generation of a NO or NO<sub>2</sub> linkage isomer by choosing appropriate excitation wavelengths.

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