Supplementary information to the paper of Kostin G.A. et al «High thermal stability of the Ru-ON (MS1) linkage isomer of ruthenium nitrosyl complex [RuNO(Py)₄F](ClO₄)₂ with trans NO-Ru-F coordinate.»



Figure S1. XRD patterns of $[RuNO(Py)_4F](ClO_4)_2$: experimental for powder sample and calculated from single crystal X-ray diffraction data.



Figure S2. The change of integral intensity of IR bands corresponding to GS and MS1 linkage isomer under 445 nm irradiation. The curves were approximated by first order kinetics:

 $I_{GS} = 20.9 + 5.14 \cdot \exp(-1.15 \cdot 10^{-3} \cdot t), I_{MS1} = 5.01 \cdot (1 - \exp(1.06 \cdot 10^{-3} \cdot t)).$



Figure S3. Formation of MS1 linkage isomer under 445 nm irradiation and transformation MS1-MS2 after 980 nm irradiation.



Figure S4. The decrease of integral absorbance for the IR band at 1761 cm⁻¹ (**MS1**) in time. Solid lines are first order kinetic approximations.



Figure S5. The decrease of integral absorbance for the IR band at 1562 cm⁻¹ (**MS2**) in time. Solid lines are first order kinetic approximations.



Figure S6. The evolution of **MS1** linkage isomer at the room temperature (299 K). Time (sec, from left to right): 0, 15, 40, 60, 90, 120. 150 (first row), 180, 210, 240, 270, 300, 330, 360 (second row), 390, 420, 450, 480, 510, 540, 570 (third row), 600, 660, 720, 780, 840, 900 (fourth row). The last picture corresponds to the sample heated to 323 K.



Figure S7. The change of red, blue and green components in time for **MS1** sample. Average RGB values were estimated for the area inside of the plate by color histogram GIMP procedure (freeware). For the initial sample R,G,B = 80, 157, 37, for the sample after 15 min R,G,B = 140, 144, 13, for the heated sample R,G,B = 145, 145, 11.