Electronic Supporting Information

to paper of A.A. Shushakov, S.G. Matveeva, I.P. Pozdnyakov, V.P. Grivin, V.F. Plyusnin, D.B. Vasilchenko, A.A. Melnikov, S.V. Chekalin, E.M. Glebov

Mechanistic Study of the *trans,cis,cis*-[$RuCl_2(DMSO)_2(H_2O)_2$] Complex Photochemistry in Aqueous Solutions

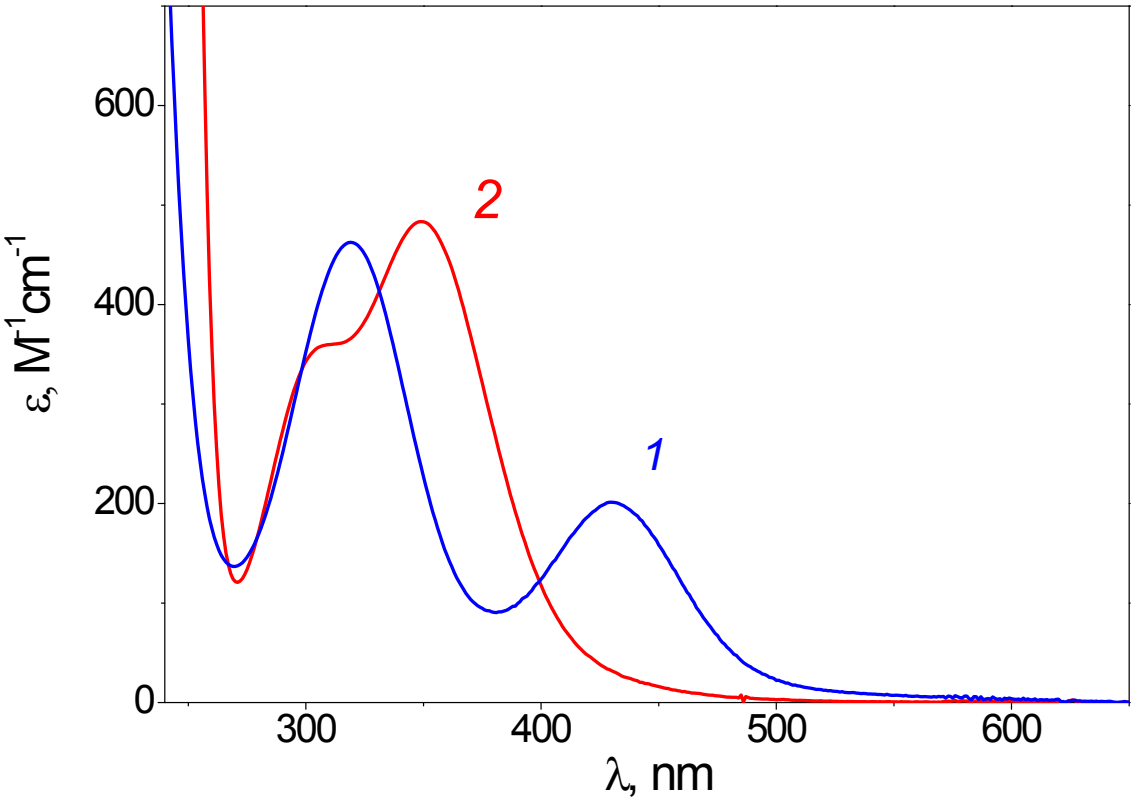

Figure S1. Electronic absortption spectra of *trans,cis,cis*-[$RuCl_2(DMSO)_2(H_2O)_2$] (**1a**, curve 1) and *cis,fac*-[$RuCl_2(DMSO)_3(H_2O)$] (**2a**, curve 2) complexes in aqueous solutions.

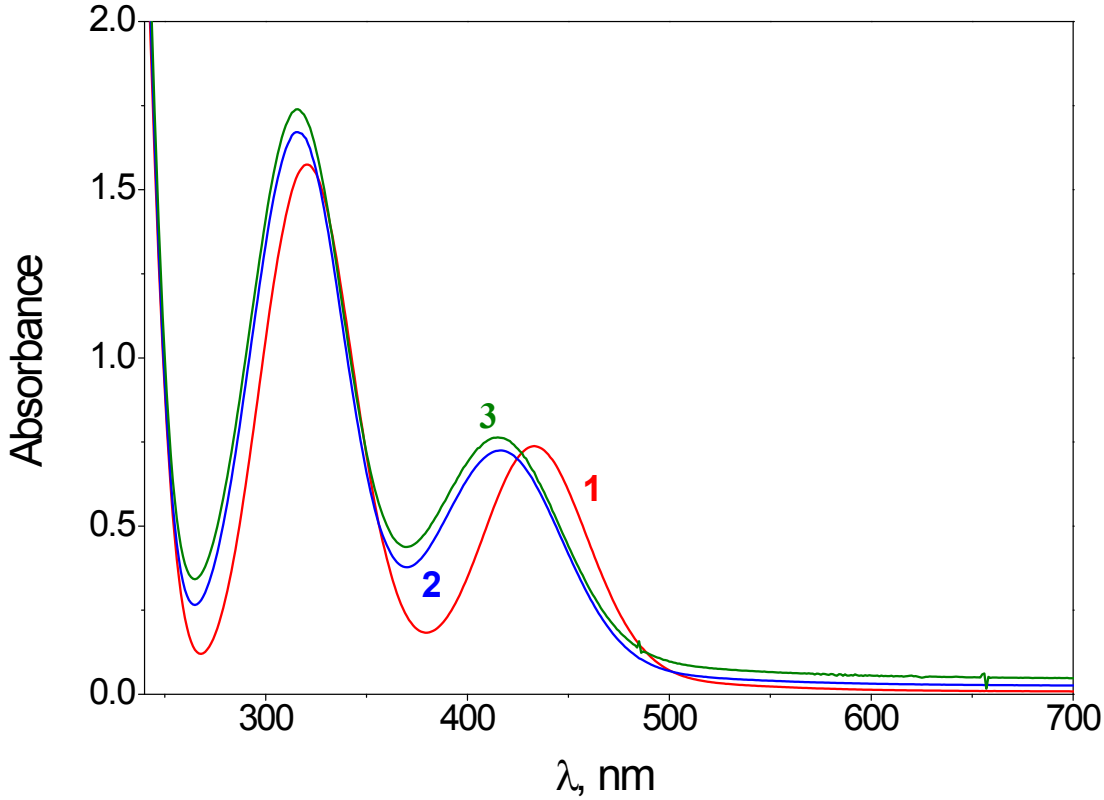

Figure S2. Changes in the electronic absorption spectra of **1a** in the course of thermal reaction (1 cm cell, concentration 3.6×10^{-3} M, temperature 295 K) in air-saturated aqueous solution. Curves 1-3 correspond to 0, 48, 120 hours in dark.

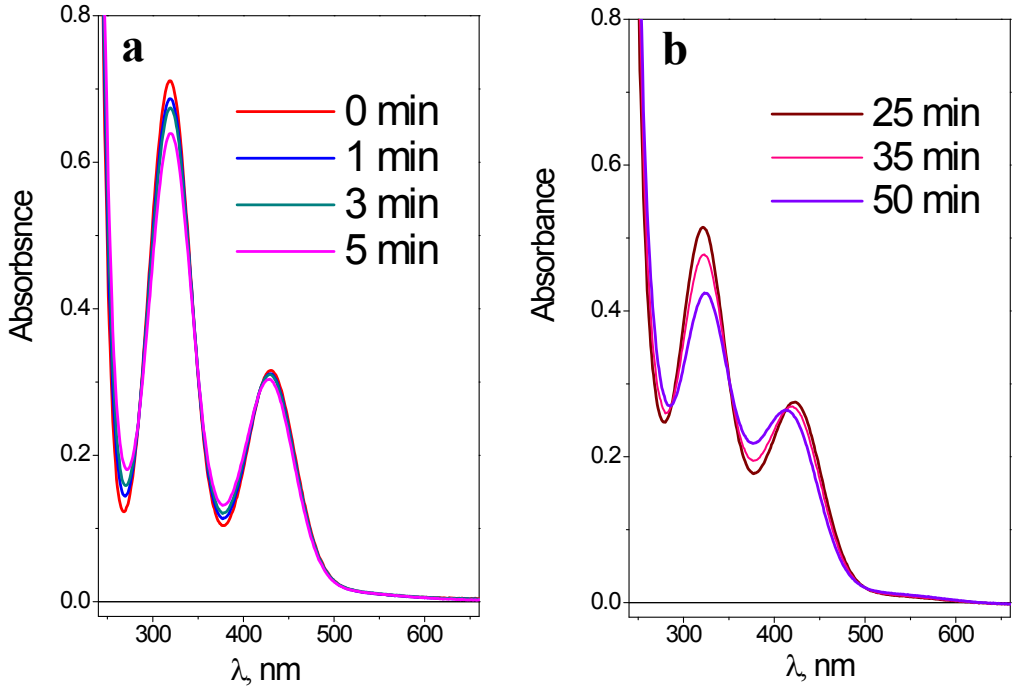

Figure S3. The change in the UV absorption spectra caused by irradiation (430 nm) of **1a** (1.2×10^{-3} M in a 1 cm quartz cell) in argon-saturated aqueous solutions. **a** – initial stage of photolysis; **b** – deep photolysis.

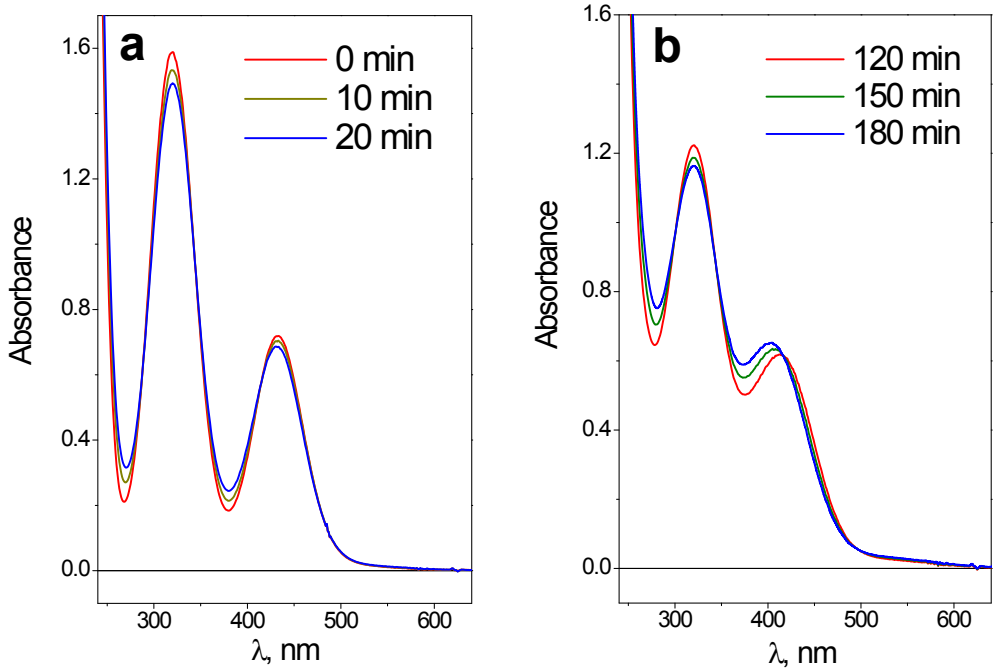

Figure S4. The change in the UV absorption spectra caused by irradiation (308 nm) of **1a** (2.6×10^{-3} M in a 1 cm quartz cell) in argon-saturated aqueous solutions. **a** – initial stage of photolysis; **b** – deep photolysis.

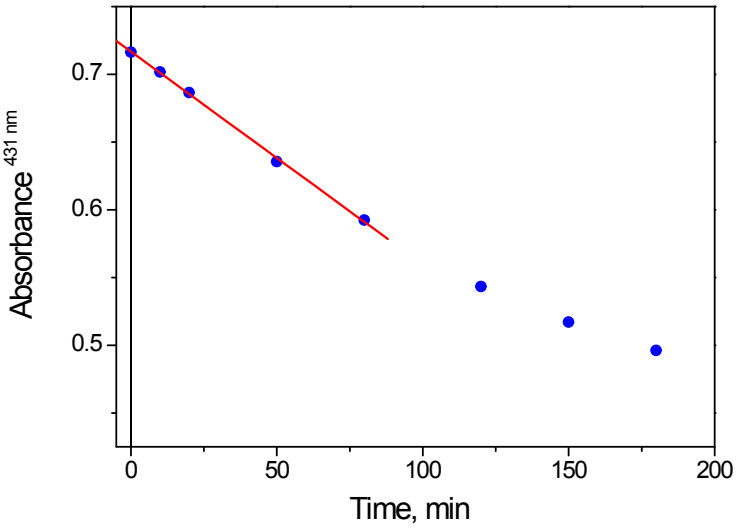

Figure S5. The change in absorption at 431 nm caused by irradiation (308 nm) of **1a** (2.6×10^{-3} M in a 1 cm quartz cell) in argon-saturated aqueous solutions. Linear fit for the points corresponding to irradiation time ≤ 80 min.

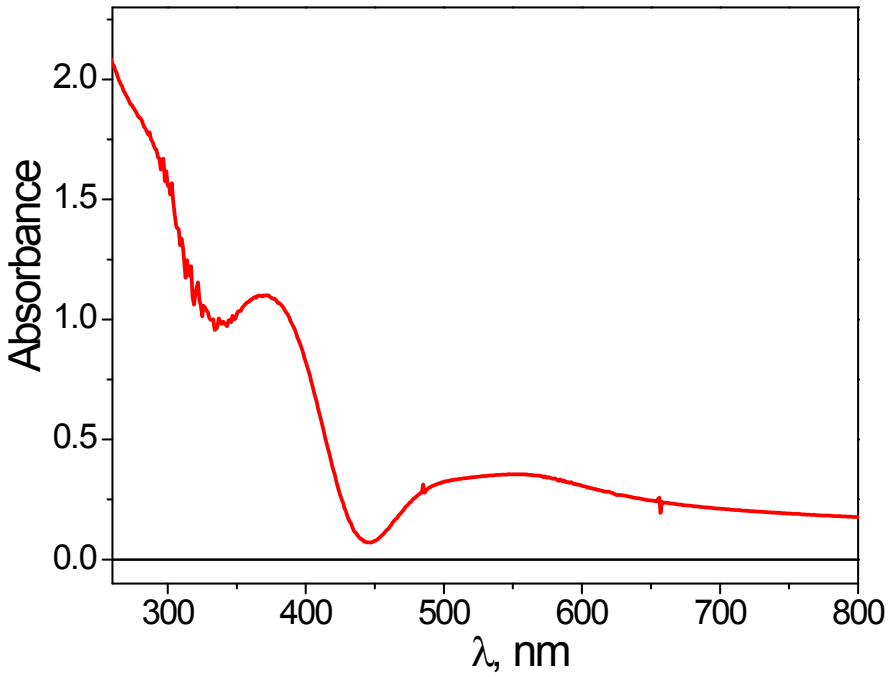

Figure S6. Differential absorption spectrum of **1a** (3.8×10^{-3} M in a 1 cm cell) in air-saturated aqueous solution caused by irradiation at 308 nm. Difference in curves (Fig. 1A of the main text) corresponding to 150 min of irradiation and initial spectrum.

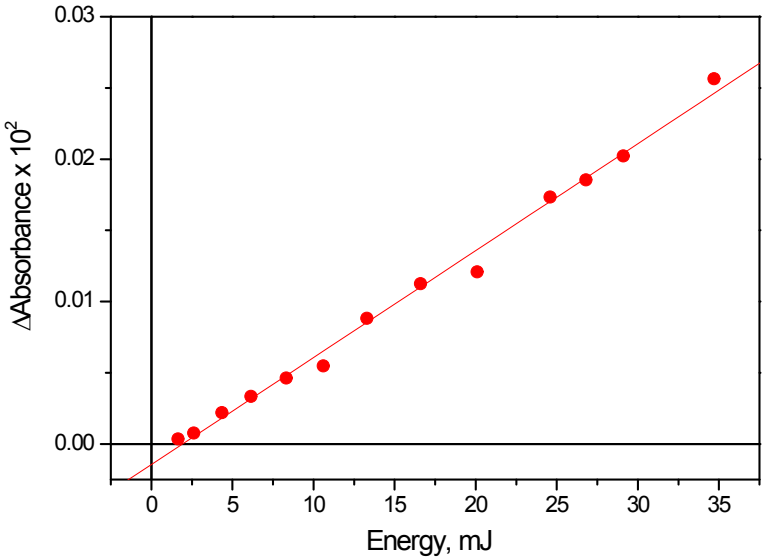

Figure S7. Laser flash photolysis (excitation at 355 nm, probing at 430 nm) of **1a** (2.7×10^{-3} M in a 1 cm cell, argon-saturated aqueous solution). Initial absorption vs. exciting laser pulse energy. Experimental points and linear fit.