Supplementary data for the article:

Pantić, D. N.; Arancrossed D Signelović, S.; Radulović, S.; Roller, A.; Arion, V. B.; Grgurić-Šipka, S. Synthesis, Characterisation and Cytotoxic Activity of Organoruthenium(II)-Halido Complexes with 1H-Benzimidazole-2-Carboxylic Acid. 61–68. Journal Organometallic Chemistry 2016, 819, of https://doi.org/10.1016/j.jorganchem.2016.06.024

Supplementary Materials for:

## Synthesis, characterisation and cytotoxic activity of organoruthenium(II)-halido complexes with 1*H*-benzimidazole-2-carboxylic acid

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## **Contents:**

1.	Fig. S1–S3 FTIR spectra of C1–C3	<b>S</b> 2
2.	Fig. S4–S6 <sup>1</sup> H NMR spectra of C1–C3	<b>S</b> 3
3.	Fig. S7–S9 <sup>13</sup> C NMR spectra of C1–C3	<b>S</b> 5
4.	Fig. S10-S12 ESI-mass spectra of C1–C3	<b>S</b> 6
5.	Fig. S13 and S14 UV-vis spectra of C1	<b>S</b> 8
6.	Fig. S14 UV–vis spectra of C3	<b>S</b> 8
7.	<b>Table S1</b> Rate Constants for the aquation at 298 K for complex C1 and C3	<b>S</b> 9



Fig. S1. FTIR spectra for C1.



Fig. S2. FTIR spectra for C2.



Fig. S3. FTIR spectra for C3.



**Fig. S4.** <sup>1</sup>H NMR spectra for **C1**.



**Fig. S6.** <sup>1</sup>H NMR spectra for **C3**.



**Fig. S8.** <sup>13</sup>C NMR spectra for **C2**.





Fig. S10. ESI-MS spectra for C1.



Fig. S12. ESI-MS spectra for C3.



**Fig. S13.** UV–vis spectra of complex **C1** in water-PEG400 mixture (85 : 15) soon after dissolution (black line), after 0.5 h (red line), after 1 h (green line) and after 24 h (blue line) incubation at 298 K.



**Fig. S14.** UV–vis spectra of complex **C3** in water-PEG400 mixture (85 : 15) soon after dissolution (black line), after 0.5 h (red line), after 1 h (green line) and after 24 h (blue line) incubation at 298 K.

Compound	$k_{\rm obs}  (10^{-5},  {\rm s}^{-1})$	$t_{1/2}$ (s)
C1	$60.4225 \pm 2.47049$	1102
C3	$51.1243 \pm 6.744$	1198

**Table S1** Rate Constants for the aquation at 298 K in water-PEG400 mixture (85 : 15) for C1 and C3.